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THE PRAISE OF WAR: AN APPEAL TO THE NATURAL MAN

MAHU

"The Prince of Darkness is a gentleman,
Modo he's called and MAHU."
King Lear, III, iv.

AT this splendid moment my august Master has commissioned me, together with my colleague Modo, to make an authoritative statement on the meaning and value of War and, if possible, to clear up the long misunderstanding which has existed between us and mankind. When I speak of an authoritative statement I cannot, of course, claim absolute authority. Shakespeare was quite wrong in identifying Modo and me with our sublime Prince. We may indeed be gentlemen. The word has several different senses. We are at any rate very subordinate gentlemen among his innumerable attendants. If we are commissioned to speak at this moment, it is because just now, through a chain of events in which our Master played a supreme part, the world seems to have been handed over to us to do what we like with. It is up to us to explain what we like, why we like it, and why we confidently expect the general sympathy of mankind.

The position is not indeed altogether new. In many ways, as theologians have frankly admitted, the world is always for most practical purposes our playground. We think and plot and act; our angelic opponents talk. How they do talk! They seem to put all their trust in a dull never-ceasing world-wide propaganda, barely intelligible and highly unconvincing, urging people to live "decent,

godly and sober lives" and promising them wildly speculative rewards in the remote future if they are so false to their natures as to do so. Our counter-propaganda is mostly silent. We whisper to each man's heart the thing that he secretly desires, secretly pursues, but contrives to hide behind a shop front of public rectitude. The Devil has seldom cared to explain himself. He has been content to direct the practice of men while leaving their words and professions to the enemy. Their propaganda is very simple-minded. They accuse us now of having twice plunged almost the whole world in war; of having undermined Christian civilization and the like, and of having set our traps with extreme cunning so that the almost universal hatred of war and the determination at any cost not to get involved in it have been the very forces that brought war about. Perfectly true, of course. We have done just that, and are proud of it. They cry out that "War is Hell." Of course it is. That is why we like it, and why we are sure that Man, if he is only true to his nature, will like it also. My Master is called the Enemy of Mankind; that is not true. It is a mere slander. He is and always has been man's best friend.

For some time past our case has been left in the hands of a few gifted human beings. We ourselves could hardly have bettered Hitler's telegram of congratulation to the Beuthen murderers, who had kicked a Communist most bloodily to death and laughingly compelled his mother to stand by and watch. A small simple thing, but in quality perfect. But later a note of selfishness spoilt their propaganda; they thought more of the Nazi cause than of Hell, and though the distinction may be fine, still the things are different. Besides, these excellent people do not want truth; they are not interested in truth. They want to give currency to whatever statements will most strengthen their party and weaken their party's enemies. My Master has no objection to that method. He has indeed been called the Father of Lies, and was no doubt the first to see what an admirable instrument they form, in most cases, for attaining a desired result. But there is such a thing as correct statement based on objective knowledge of facts, and on certain rare occasions the unswerving pursuit of fact is just as necessary as lies may be in ordinary life. My purpose now is simply to proclaim Truth; to proclaim a great Truth hidden from almost all mankind by centuries upon centuries of lying sanctimonious balderdash. War is Hell. I like War because I like Hell, and so does the human race. We like it because it is wicked. "Wicked," so I see in an old etymological dictionary, is the same word as "quick," which means "alive" and "moving."

I say to mankind, "Shake yourselves. Get rid of pretence. Turn away from the philosophers and saints and weaklings and book-

worms, whose preachings you never really believed." Those who like Life like fighting. Life itself is a fight against all the hostile surroundings that would deny you life. Normal men enjoy War. Children love playing at war. The children perhaps do not understand what their play really means, but grown men also love playing at war. Half the elderly men in England now are trotting about in sham manœuvres with rifles and helmets, and the other half envying them. And look at the soldiers themselves. How they sing when they march! How they laugh and talk when they start off for a new enterprise! How they enjoy the actual fighting, the excitement, the terror, the fury, the escape, or better still, the victory! How often have we seen lately a letter from some young airman using the phrase: "The happiest moment of my life." Not once but again and again. And it always refers to the moment when he has shot a fellow creature—a dangerous, powerful fellow creature—down in flames. There is no personal hatred about it, no ill-will. He has never seen his enemy before, and has nothing against him; but to fight him and kill him makes "the happiest moment of my life." Nay, we can go further. What could be more wretched, one would say, than to sit still and be shot at? Yet have we not seen in London and the other bombed cities the glad looks and laughing talk of those who come out in the morning, safe, proud of themselves, full of the sense of adventure? They have been shot at all night, and missed, missed, always missed! Tired as they are, they have a sense of exultation. There is a line in one of the oldest poems of the world describing more than once how defeated men "come back rejoicing out of the jaws of death, their dear companions lost." A pity, of course, they might say, that so-and-so is killed; but we have had the thrill, the fight, the terror, the divine escape. We would not have missed it for the world.

I have taken only the winners of the game; what of the losers? The dead: why should we count them? They were mortal and would have died anyhow. Is it so much worse to be killed by a rifle bullet in the year 1914 than to die of cancer or T.B. or apoplexy in 1940? Besides, he who dies in bed gives no particular pleasure to anybody; he who is killed in battle may be giving one man "the happiest moment in his life." The wounded? The painfully wounded? Well, in every game there must be losers as well as winners. And we must think also of him who gives the wound. He may have as much triumph and happiness as the full-fledged killer.

Face the fact, the central all-important fact. Man loves to kill; he loves to chase, terrify, hurt, destroy. The very word "sport" is no longer applied to amusements which spill no blood. A pastime needs the tang of blood about it, the thrill and triumph of making sentient creatures fly in terror or drop in death, before it deserves

in human language the high title of "sport." All the rich, all who can afford it, spend their leisure in killing for fun.

After all, why should they not? How could one expect it to be otherwise? The lesson of biology is simple. All animals live by killing. Every species has its prey on which it lives and its enemy which in turn lives upon it. It must kill in order to live, just as it must eat and drink in order to live. And, just as it enjoys eating and drinking, so it naturally enjoys killing. That is how the living world is constituted. It is the great contribution which my august Master made to the scheme of creation at the last moment, just after the official Creator had, somewhat prematurely, surveyed it and pronounced that it was good. A world in which every living creature lives by the pain and death day by day, indefinitely repeated, of some other sentient creature is a world made for us; a world that finds its true satisfaction in Hell and is a model for Hell.

Our opponents point to the graminivorous animals, the mild cows and sheep. They will point out the "love" of the herd for its members, its co-operation for mutual protection. They become infinitely sentimental about lambs, which with tears in their eyes they proceed to cook and eat. They will omit to notice that these animals, if they do not directly kill other animals, starve them out by eating their food; that the males among them fight furiously; that if one member of the herd is sick or wounded or too weak to defend itself, the others gore and butt it and "have some fun out of it" before it dies, just as if they were human. But no doubt most of the graminivorous creatures are passive and of little import. They are there to furnish food and amusement to the beasts of prey and above all to the highest of all animals, the great carnivorous ape Man, the most ravenous, most sensitive, most ingenious of killers.

"Love is the principle of life!" What nonsense! The principle of life is Hate and Wrath. The living creature hates and dreads the enemy that preys upon it; it hunts and kills its prey and actually is angry when the prey tries to escape. Love is a secondary emotion. It is the feeling towards an ally, a helper. First comes the foe whom I hate; next, a long way after, is the friend or ally who helps me against that foe, or who helps me to satisfy some of my natural desires. That helper I love and regard for the moment as part of myself, but all experience tells us how quickly the love passes away or turns to jealousy and irritation, or to that natural rivalry and hostility which is the basic relation between living creatures. Each creature is, as it were, an armed fortress fighting against the world for its own life.

Perhaps some of my opponents will now admit the goodness of the actual fight; the endurance involved in war, the concentration of all powers, the splendid courage, but will point to the sequelae of

the battle; the plundering and ravishing, the slaughter of non-combatants and destruction of all that can be destroyed. They call such things "excesses" and deplore them. Foolishly; excess is the right word. Life loves excess. It hates inhibitions, restrictions, sobrieties, deadenings. It is excess that gives splendour to life.

The natural man knows this. He likes killing, he likes ravishing, he likes plundering, he likes intoxication, and knows that the whole world becomes more splendid still if he is drunk. He knows this, but dares not admit it openly because of the deluge of sickly preaching and improbable threats to which he is subjected day in day out by our opponents. Much of this deluge comes from religion. We are not so much afraid of religion. My Master has a thousand ways of blunting its edge or turning it in the opposite direction. Religion can always be made to serve the cause of War. The history of Islam, of the Crusades, of all the Christian sects and heresies illustrate His method. Persuade the religious man that he and his community possess a truth precious beyond all price. That is easy. He will jump to it. It follows that he and his community are of infinite value, beyond all other men. Therefore, those who resist or oppose them are doing infinite harm. Such people must be very evil; war against them is a sacred duty. And if the natural man, in his zeal for the faith, enjoys himself freely and commits "excesses," who can seriously blame him or deny him his meed of sympathy? My Master smiled when he led the great Christian theologians to explain that the Religion of Love led necessarily to the infliction of Eternal Torment on the vast majority of mankind. Hell was made by *La somma Sapienza e il primo Amore*! Hell was necessary because the happiness of God could not be complete without the contemplation of infinite suffering to enable him to enjoy the contrast! So Dante and Thomas Aquinas. How my Master smiled! We can often use religion for our purposes. The religious fanatic is quite often a man of our sort. He is not emasculated; he is lusty and confident; he despises intellectual doubts and moral scruples. He "knows" that those who differ from him are God's enemies, and he shows them no mercy. We have no complaint to make of him.

The danger to us comes from the sickly emasculated intellectual man, who denies Life and lies at the mercy of his conscience. He may be religious, of course; he may be philosophical; he may be merely too weak and sensitive and kindly to dare to enjoy himself.

The more intellectual of these people are always talking about Truth, seeking Truth, preaching Truth; condemning violently those who boldly believe what they wish, invent what they like, and spread about what they wish others to believe. They are dead and dumb, unable to create, unable to make the good lie seem probable. They are chained slaves of this "Truth" which they adore. And the

jest is that they can never attain it! Surely they know by now that they never can. Philosophers have been speculating away for some thousands of years; has any one of them on any point found the real truth? Does not the history of philosophy consist almost entirely in a tedious review of the errors of all previous philosophers, and the errors of the previous critics who have tried to explain those errors? Is there a single scientific law which can be called really true, or has more than a provisional validity to last until it is disproved? Even the law of gravitation had gone the way of the rest. Some philosophers, abandoning their own subject, have maintained at least that historical statements can be true. That is just possible. Avoid the slippery implications of time and space; avoid all generalizations; and it may be possible to say that two and two once made four or that King Charles's head was cut off. But what are such truths worth? Does anyone pretend that it is possible to give a full and adequate true account of any single event that ever happened? We all know it is not. Truth is a phantom, a remote fugitive thing, unattainable by man and of no value if it were attained. No. The Father of Lies shows the right road for anyone whose mind is alive. Desire, invent, plan, lie, and create the world that suits you. If it ceases to suit, destroy the bubble and create another. That is the road of Life, of Will, of true "quickness" or "wickedness."

Of course we are sometimes baffled. We are not fully masters of the world. There are things in human nature which I do not understand and which for long periods have driven my Master back and defeated him. For a century before the World War it seemed as if the powers of Hell were being beaten from one point of vantage after another. Slavery was one playground of Hell, and slavery was abolished. Religious intolerance had for long let Hell loose in Europe, and religion became less intolerant, less certain of itself, less dogmatic, actually more concerned with helping mankind than with persecuting difference of opinion. The life of women, weaker physically than men and subject to greater strains, but making up for their weakness by cunning and by their power over men's passions, had always been one of the permanent fountains of Hell upon earth; but even there, through this morbid growth of sympathy and understanding, change after change was made till we trembled at the possible loss of one of our greatest resources. As for War, instead of being the great field of ambition and glory, it was beginning to be regarded as an evil thing, a folly, a mere failure of civilization unworthy of reasonable men. We were losing on every side. And we were losing largely because we could not understand the forces against us. We do not understand them now. There is some spark in the human spirit that we cannot quite quench. Men have con-

sciences, whatever that means. They have a sense of duty. They feel one another's suffering. They are what is called "unselfish." They become in some strange way immunized against the arguments and temptations which ought by rights to appeal to the great Carnivorous Ape, and which do in normal circumstances prevail with him. Even in war, in the heat of the battle, they sometimes utterly forget or mistake the real meaning of war, and treat it—Satan forgive me!—as a sort of field for self-sacrifice. The *Jervis Bay* and some of these V.C.'s—it sickens us to think of them. How can our Master hope to deal with madmen? It may be some maternal instinct spreading abnormally beyond the child to all that is weak and needs protection. It may be some gregarious instinct grown morbidly strong so as to make the individual sacrifice himself for his fellows. It may be . . . But why go on guessing? It is unintelligible, unnatural, and it was driving us to despair until our Master with sublime daring and subtlety, just when the world imagined it had outgrown the folly of War, brought about the greatest and most ruinous War of all time. That put an end to the ease and comfort, the vain aspirations, the green-sick humanitarianism of the nineteenth century.

Our Master had of course done the same thing before. He had done it to Athens two thousand years ago, when it seemed for a moment as if the human race was beginning to find the road of escape from Hell. Then also he saved Hell by means of War. It is the best of all his instruments. And he not only destroyed the hope of Athenian democracy but, through the despair of life which the series of wars and defeats left behind them, he brought it about that the most vital and dangerous systems of thought that had yet arisen from that spark in the human spirit became infected with despair and mistrust of life.

The denial of life permeates all human philosophy. Too much thought tires the ape's brain; makes him cold and spiritless; and when he looks about him for what he calls objective facts our Master has taken pains that he shall see plenty to encourage his despair. I do not speak of Hindu and Buddhist philosophy, which openly professes this denial of life. The life of modern Europe has been poisoned by Greek meditation, by eternal talk of righteousness and moderation and beauty and the pursuit of justice and the "one great City of Men and Gods"—with no place whatever for us and our sublime Master. These ideas have spread like poison into the religion, the science, the common thought of modern Europe. Men still listen to Plato. They positively like to have Plato telling them that it is "better to suffer wrong than to do wrong," that for the sinner it is "better to be punished than not to be punished." They admire the Stoics who tell them that nothing but Virtue, forsooth, is of any value, and that pleasure and pain are perfectly indifferent, unless

indeed pleasure is slightly objectionable. They may find a moment's comfort with the Epicureans, who did at least see that pleasure was the chief good, but are then met with an immediate denial of all vigorous and vital pleasure and an insistence that the proper road to pleasure is to live on water and vegetables in a garden, with all desires subdued! All these philosophers were afraid of life. All denied life. And in doctrine at least they prevailed almost unresisted over early Christianity, and thence over the professions—though, Satan be praised! not over the practice—of the religion of the Western world. They made it a gospel of defeat, of cowardice. "Blessed are the meek . . . blessed are the poor, blessed are they that hunger and thirst." Blessed are all the unsuccessful! Who that is sane believes such paradoxes? Who that is alive and ready for the battles of life? "The Devils also believe and tremble," says one of their prophets; but at least we never for a moment believed this anti-vital mouthing, nor do we in the least tremble at it. It is contrary to human nature, and we can beat it whenever it dares to face us.

They have their ascetics; their anchorites who take their useless bodies away to the desert and devote their time to combating their natural instincts, their St. Jeromes and St. Antonys. Who has won, they or we? Did we not see in a moment that by the very act of devoting themselves to suppressing the sins of the flesh they were devoting themselves to thinking about them and stirring them to morbid life? They have their martyrs and enthusiasts, who invoke Hell and eternal punishment as the due reward of their persecutors, and so give us our chance. To save the souls of the unbelievers from that ghastly destiny no action can be too strong. We laugh as they burn alive in multitudes their Jews and their heretics; by that they not only prevent the spread of false doctrine, but also get possession of the property which belonged to such unworthy owners, and they give long days of jolly festivity to the multitudes of faithful onlookers. At times they even have pricks of conscience at the thought that the tortures which they inflict are so short and feeble compared to those which God inflicts, and contrive laboriously to lengthen them out. No, we are not afraid of these doctrines. We meet them with deeds, not words.

Hell is what man desires. The natural man loves torture; torture of guilty men, torture of innocent men, torture of helpless and unoffending animals. All through the Roman Empire what was the great delight of the common people everywhere, the great road to popularity for ambitious magistrates and governors? The games of the circus; the fights to the death of gladiator against gladiator, the ingenious torment and slaughter of criminals, or if criminals failed, of Jews or Christians or alleged conspirators; while, if even those sources of supply dried up, the really generous magistrate would

offer some of his less useful slaves. Such distinctions mattered little; as long as there were streams of human blood, groans of pain, shrieks and laughable antics of terrified victims, the great heart of the people was satisfied and applauded the munificent provider of such rich entertainment. No people except those accursed Greeks, always marplots and deniers of life, held out against the prevailing fashion and presumed to denounce it as inhuman, bestial and a mere "lust of slaughter," as if that lust was not perfectly normal and healthy.

The proof of what man really likes is the behaviour of those men who are really free. All history is full of the cruelties of tyrants. Why were they cruel? Because they had the power to do what they really liked, and they liked terrifying and torturing their fellow men. If it was fun to see a rabbit run in terror and perhaps to hear it scream, more fun still to see a larger beast, a strong one, a beautiful one, an angry and dangerous one; the best fun of all for the supreme beast of prey was to prey upon his own fellows. Tyrant may differ from tyrant in taste and character. Nero was artistic; Commodus brutal; Ivan the Terrible devout; Himmler obscene. We hear a good deal of their different lusts and pleasures, but every bodily lust has its limits. They can be satisfied, or at least sated. The lust of cruelty has the advantage that its possibilities are practically infinite, and the autocrat who has exhausted all other pleasures can go further and further in the infliction of suffering upon mankind.

Not that I would compare the enjoyments of these tyrants directly with the enjoyments of Hell. The tyrants did not themselves join in the suffering. The Herculean Commodus fought in the arena, but his opponents were only allowed wooden or leaden swords; the pious Ivan sat at peace in his monk's hood while the population of Nijni Novgorod was tortured to death before him; the German Protectors of Poland and Czechoslovakia looked on and took notes while students were flogged till they dropped and then stamped upon till their ribs were broken. Paradoxical as it may seem, I doubt if they had the full enjoyment of Hell while they stood aloof from the experience. A better example was a young Nazi airmen who was machine-gunning refugees in France with enthusiastic success when he was brought down and both his legs were broken. He went on with his machine-gunning till his right arm was shot through. He changed the handle to his left hand, and went on spreading terror and pain and shouting with delight till his strength failed him and he died from loss of blood. In Hell he would not die; he would go on in joyous suffering for ever.

What my Master offers to man is the fullness of life, the satisfaction of his true uncorrupted instincts: to lie and invent, unchecked by the fetters of fact; to hate and deceive not merely his enemies but

those who trust him; to terrify and torture infinitely and for ever, in such sport as his boldest dreams have never imagined. He will suffer too, of course; that is part of the scheme with us as it is in this world. Life is an eternal fight; to kill and be killed, to eat and be eaten, to terrify and be terrified, torment and be tormented. To love oneself and hate all outside, with the pale exception of sometimes feebly loving one who acts as an instrument or an ally. In all sport there is an element of hardship or danger or suffering; more of it in the more exciting sports, and most of all in war. In Hell that element too is raised to infinity. It is the place for man in his youth, in his time of passion and daring, man when he trusts to his sword and his wits, fearing no law and asking for no protection. It is no place for the saint, the philosopher or the bourgeois; no place for the dull, timid, middle-aged, thin-blooded and reasonable. It is a place for the fearless lover of Life, the Dynamic, the Quick, the Wicked.

We are of good heart. War is our element. We have trapped mankind into it, we and our helpers; we are teaching them to like it, and we mean to make it last for ever.

Of course there is a cry for "Stopping the War at Once." The foolishness of this disgusts us, but we welcome its practical effect. Hitler broadcasts religious services to England in order to support it. He knows that to cease fighting now would not bring peace. It would only confirm his victory and hasten the attainment of that New World for which we have so long been working; such a world perhaps as has never yet existed on earth, with Hitler and his Beuthen Murderers, Streicher and his Jew-baiters, the Gestapos and Ogpus with their spies and torturers, supreme over a maddened humanity; a world of slaves, and not peaceful slaves but slaves who agonize and rage and rebel. To us it would be like home.

The forces which we hate will go on with the struggle, fighting and dying in the cause of Law, Pity, Humanity, and the rest of the sickly throng. But those who began by fighting for these causes will in due course find themselves fighting not for them but for Victory, Victory by force, Victory by fraud, at all costs and by all methods Victory. The deeds and passions of Hell which War brings with it will at first horrify men, then cease to horrify, and then pass into the ordinary texture of life. Children will grow up taking such things for granted, accepting them as natural, gradually learning to admire them as marks of greatness and enjoy them as improved forms of sport. So much we trust will happen automatically; and meantime we shall be busy whispering in men's ears lesson after lesson of our secret doctrine, delightful to the long-suppressed and stinted cravings of the released Carnivorous Ape. If we do our work reasonably well we shall reach, not indeed the absolute Hell of our ambitions, but at least a world in which Hell is far stronger than now, a world in which War has shown that it is king, in which Mercy is weakness

and Justice a thing of no account, and the few who will still be left stupidly hungering after Truth or Beauty or Righteousness will be swept aside by the vast loud multitude of normal men who live, as we do, for their natural lusts.

Is that mere dreaming? We must not fall, as our enemies do, into idle wish-thinking. Our confidence in a Hitler victory, though still strong, is not so strong as it was. There was more fight than we expected in these paltry peace-praters and freedom-lovers, the British, the Greeks, the exiles from the conquered territories. There is something odd and unintelligible even now, while war rages, in the senseless indomitable struggle of the weaker side of human nature, its "humanity," its "good feeling," its "Christian charity," and the rest of that poisonous jumble. Wherever we have produced real Hellish misery and stand triumphant over our work there come busybodies trying to mitigate the misery, and even facing death and danger in order to do it. They remind me of the starved grass and flowers which keep alive under London pavements and creep to light in the chinks between the stones, refusing, even in sunless darkness, to be starved quite to death.

This persistence frightens some of us; yet surely no one need be afraid of it. It is in its very nature a feeble sickly thing, and when we wish we can stamp it into the ground as one stamps a scorpion. But if things do go wrong, if this enemy, instead of dying, really comes out victorious even in our own field of War, it will be hard to think out our next step. The facts will show that we have made a miscalculation, and we shall be placed at a great disadvantage. Our best holds upon mankind will have been lost. Over all Western Europe there will be the habit of Law and something like Justice; no secret police, no torture camps, no reign of terror; no setting of children to spy upon parents or of wives upon husbands; no systematic rewards of crime and punishments for honesty; no rehearsal of the pastimes of Hell even upon Jews. We shall have to find our friends once more among mere hunted criminals, not among the rulers of the world.

A daunting prospect: yet even so we shall not despair. Peace will come with the Axis defeat, but we can at least make that peace hard for our enemies. They will have a difficult soil to plough and sow, not one in which the fruits of peace will ripen easily. No doubt if the victorious freedom-lovers are very wise and discerning, very generous and unselfish; if they never give up the struggle and shirk responsibility; if after intolerable wrongs they harbour no lust of revenge; if, in fact, they behave better than human beings ever have behaved in that position; then no doubt we shall be routed. They can ensure their lasting peace and begin to build their sickly City of God. But will they?

If only we could poison that grass between the stones!

BACK TO DESCARTES[1]

Professor A. E. TAYLOR

I MUST explain at once that these few pages do not attempt or pretend to be anything like a formal review of the recently published posthumous volume of Professor Bowman with the same title. I am precluded from writing such a review partly by the wide range of problems attacked by the author, partly by my own insufficient familiarity with many of the positions of the most recent physical and natural science which are brought under review I will therefore confine myself, so far as the strict business of the reviewer is concerned, to the single remark that the editor, Professor J. W. Scott, has discharged his difficult task of preparing the book for publication—no easy matter, as will be seen from his Preface—with equal skill and devotion, and has laid himself open to no worse criticism than that there are less than a dozen obvious slight misprints which have escaped detection, but will readily be detected by a careful reader. What I propose to do in the remarks which follow is simply to indicate the very real importance of the book by saying something as to its main purpose and thesis, and the points where I still feel that there is some difficulty or ambiguity about the writer's position which would, no doubt, have been largely cleared up if he had lived to reconstruct the whole six of his Vanuxem Lectures for publication as he has done the first three.

In a way, one may say that the motto for the whole might not improperly have been "Back to Descartes," a great philosopher who has fallen for a generation or more into some disrepute. We are all familiar enough with the complaint—some of us may, to some extent, have urged it ourselves—that Descartes definitely sent philosophers for generations on a false scent by his hard-and-fast dualism of the "extended" and "thinking" substances. Nothing has been more characteristic of some of the most distinctive philosophies of the past generation than the reaction against this Cartesian doctrine of the two substances with antithetically contrasted attributes. The reaction against it has perhaps most commonly been motivated by the "naturalistic" purpose of dethroning "mind" or "thought" from its solitary pre-eminence. One can trace this tendency notably in the work of Santayana, Whitehead, and Alexander, all of whom come in for much trenchant criticism at Bowman's hands. But the motive has not always been the "naturalistic" one. The attack has

[1] *A Sacramental Universe*. A. A. Bowman (Oxford University Press), 1939.

sometimes been conducted, as in Professor Gilson's recent *Unity of Philosophical Experience*—a volume published, of course, since the delivery of these Vanuxem Lectures—in the interests of the neo-Thomism which at the present moment seems to have so great a future before it. One can trace its influence, again, in the insistence that mind, as we are acquainted with it, is always *embodied* mind which runs through such a volume as Professor Stout's *Mind and Matter* as its dominant theme, though neither Gilson nor Stout is, in any sense of the phrase, a " naturalistic" thinker. What Bowman was anxious to maintain, as against all these critics, is that, with all the error involved in his doctrine of the two antithetic substances, Descartes was fundamentally in the right in opposing the "physical" and the "subjective" to one another as ultimately irreducible *modes* of being. Nothing that is physical is "subjective" and nothing that is "subjective" is physical; any failure to recognize this fundamental *duality* of modalities of being is bound to lead, and Bowman argues, as I think with success, that it does lead in differing degrees, in the cases of Santayana, Whitehead, and Alexander, to a much more radical and incurable *dualism* than any it is meant to remove. Only for the two supposed "substances" we must substitute two opposed *systems*, the one composed of experiences, the other of physical events which have nothing in common with experiences beyond the fact that they occupy time (according to Bowman, a common character of all that is). The strictly physical system is strictly not mind-dependent, and the system of experiences, that which constitutes personality, is in no sense dependent on the physical. Each is, in Whitehead's language, "closed against" the other. What a purely physical system consists of is, in the last resort, sub-microscopic events taking place over the four-fold continuum of " space-time," undulations of which the nature is disclosed to us by the latest developments of the *quantum*-theory. A " subjective" system is one of which the constituent items are not undulations but experiences. This is not to say that they are all "conscious states"; on the contrary, there is a vast amount of subjective activity of which we are unconscious. But we are unconscious of it, in a very special way; for example, my unconsciousness when I have forgotten a name and am trying unsuccessfully to remember it, is specifically different from the unconsciousness we attribute to a stick or a stone. I actually have a conscious experience of what it means to be unconscious of that name. (So, I suppose, we may also say that when I wake from a sound sleep I am conscious of the change of my condition. I know that I *have* waked, and thus have the consciousness of what it means to have been asleep.) Thus we may say that the characteristic *differentia* of "unconscious mental processes" is that they differ from the "unconscious states" of senseless things in

being able to enter as constituent elements into a homogeneous system which includes conscious processes.

The fundamental notions of the author's philosophy are thus those of a homogeneous system and of the functionally related elements which are its constituents. All these elements are assumed in every case to have what is regarded as the most universal character of all being; all of them are events or processes occupying *time*. Such elements are said to be functionally related when what one of them is depends in any way upon what another is, or others are, and a set of elements thus functionally related form a *system*. It is a *homogeneous* system when all its constituent elements have one and the same modality of being, which is also that of the system as a whole, so that the system and each and all of its elements have the same modality. *A priori* we could set no bounds to the number of possible different modalities, but in fact we know of only two, and therefore of only two coherent homogeneous systems, the physical, as disclosed to us by the exact sciences, and the "subjective," only known to us certainly as the realm of personality. The physical and subjective systems thus answer in the theory to the extended and the thinking *substance* of Descartes (or to the two known "attributes" of substance in the scheme of Spinoza.

But there is this important difference from Descartes, that the notion of substance is replaced by that of a homogeneous system; a person, for example, is thought of not as the mysterious substratum underlying his own personal activities, but as the unitary system constituted by them. Consequently Bowman is able to avoid the rock on which Cartesianism is wrecked, the conception of a substance which is, in its *essentia*, unknown, while all that is known is a congeries of accidents of this supposed *X*. The homogeneous system exists in and manifests itself by the processes which are its elements, and so is known through them, as a man's "personal character," though not identical with any of his actions, is displayed in them all.

The universe, however, does not consist simply of homogeneous systems, whether physical or subjective. If it did, of course, each of us, being as a person a homogeneous subjective system, would be in the same position as one of Leibniz's monads, aware of his own internal development and of nothing else. But in fact each of us is aware not only of his fellows but of the inanimate environment of things and events in the midst of which our life is set. Hence we have to think of reality as a whole as a heterogeneous system in which events themselves subjective are conditioned by others which are non-subjective, and *vice versa*. Mind is, in fact, *compresent* in the universe with the non-mental. This compresence is again only possible in virtue of a more intimate functional con-

nection, of a kind which must in the end remain a mystery for us, of the mental and the non-mental, in fact of the existence of *embodied* personalities.

This explains the title given to these lectures. The physical order is, by definition, not mind-dependent, and the subjective is equally independent of the physical. No scouting of physical facts, however subtle, throws any light upon either the existence or the destiny of experiencing subjects. But the experiencing subjects with which we have actual acquaintance, whatever their origin or destiny, are embodied selves. Through their embodiment the physical order, itself, as the author assumes, one of monotonous and purposeless vibrations or exhalations, becomes charged with significance and meaning, with sensible qualities and "values," which it could not have if it stood alone, and only acquires in virtue of the existence of the embodied self. *Nature* is thus something more than the merely physical, and, as distinguished from the merely physical, is in a real sense mind-dependent or mind-conditioned. For the sensible qualities and the values, utilitarian, aesthetic, or moral and religious, though they would not be there but for the existence of the embodied selves who discern them, are discerned as characters of that which is apprehended, not of the subject which apprehends it. (The colour and fragrance of the rose would be non-existent if there were not percipients with organs of vision and smell, but still they belong to the rose; it is the rose, not the percipient, which is crimson or scented.) Nature as a whole is thus sacramental in the sense that it is a system of values revealed or ministered to embodied percipients by a physical order, but not belonging to the physical order independently and of its own right. Yet we are not reduced to an ultimate metaphysical dualism like that of the Cartesian two substances. The *escape* from such a dualism is provided by theism with its conception of divine creativity. In the last resort we have to think of the physical itself as the creation of the supreme divine personality. For deity is no other than being at the full height of its plenitude, and therefore—a reformulation of the familiar "ontological argument"—has no *raison d'être* other than itself. But the physical is being reduced to the minimum at which it is on the very point of vanishing into nonentity (as Blake would have said, "to the limit of 'opakeness' "), and its *raison d'être* has to be sought outside itself in the fuller being from which it is a "remission"; a conception of creation which, as the editor notes, is curiously neo-Platonic.

I have tried in these few sentences to offer without comment a necessarily very brief and inadequate statement of what I take to be the writer's main line of thought in detachment from the many incidental side-arguments into which he is led in the cause of an

exposition where it is sometimes a little difficult "to see the wood for the trees." I propose to add a few remarks concerned partly with the points on which I for one feel Bowman to have made out his case once and for all, partly with others where I am still conscious of difficulties or of uncertainties which might in large part have been removed if the author had lived to complete the preparation of his own manuscript for publication.

Further, as to points of agreement, I will only mention a few which seem to me of special importance. I should like to congratulate Bowman on a fundamental improvement in terminology which obviates many common confusions. He rightly, in my opinion, abandons the traditional antithesis between *subjective* and *objective* on the sound ground that anything whatever which can be made the object of reflection and study is properly to be called objective, and that we can notoriously thus make our own personality, character, intimate personal activities, objects of reflection; hence the subjective is as objective as anything else. The true antithesis is between the subjective and the *physical*, that residuum in nature which is wholly other than mind-dependent, the "matter," so to say, of the sacrament which is nature. This may seem at first a very simple change of nomenclature, but it enables the author to avoid a host of tiresome ambiguities which beset the traditional employment of the word *objective*.

This being premised, Bowman is, as it seems to me, wholly right in his main contention that existence as a subject of experience is a fundamental "modality of being" irreducible to any other and in his prolonged and acute criticism of the well-known contemporary thinkers who have tried to eliminate or minimize the antithesis between the "subjective" and the "physical." He is right in principle here, I believe, as against some distinguished writers who are not quite the objects of any direct criticism in this volume, when he insists that nothing can be at once a constituent term of the subjective and of the physical "modalities." This has always seemed to me a fatal objection, for example, to the account of *sensa* in so excellent a work as Professor Stout's *Mind and Matter*. I have never, in spite of many re-readings, really understood what *sensa* as described by Stout are, but it is at least clear that they are taken to be either at once both "mental" and "physical" or to be neither. Thus Stout tells us that when "the straight oar looks bent" in the water, there are (1) something which *is* straight but *looks* bent, and this is the physical thing, the oar, and (2) something which *is* bent, and this is the *sensum*." My difficulty is that (*a*) I cannot feel at all sure that, in the case supposed, there is anything at all which not merely *looks* but *is* bent, and (*b*) that if there is something which *is* bent, when I try to say more precisely what

this something can be, it always turns out to be a problematic something (e.g. an "image on the retina") which is not "sensed" at all—since I certainly do not look at images on my own retina—and is definitely physical and not mental. Hence I am, rightly or wrongly, quite in agreement with Bowman in the further view—I do not know whether Stout would concur with it or not—that however true it may be that all my experience of self is that of an *embodied* self, this throws no decisive light on the question whether such embodiment is more than an episode in the history of a self. So far as I can see, considerations like those dwelt on by Stout do not even prove that there may not be other episodes in my own personal history in which I shall exist unembodied (as a "parted soul"). I could find it in my heart to wish that Bowman had included in his critical examination a detailed statement of his own attitude towards the doctrine expounded in Stout's *Mind and Matter*, since, though always leaving me profoundly dissatisfied, it has always seemed to me far and away the ablest of all the contemporary attempts to overcome the radical antithesis of the physical and the subjective (to use Bowman's terminology) by discovering something which is either at once "mental" and "bodily" or is neither, exactly as you like to take it.

A second point of supreme importance, where I find myself again unreservedly on the side of our author, is that his philosophy is definitely an *existence*-philosophy. The "postulate of being" (or existence) must from the first be made for the constituent elements of any "modality" which we can make the object of our study. There must be no ultimate antithesis between a realm of immutable but non-existent "essences" and a second realm of existence which is mere flux. Bowman seems to me unanswerable in his contention that Santayana's doctrine of essences, or Whitehead's of eternal objects, only gets rid of a comparatively superficial duality at the cost of introducing a more fundamental dualism which is incurable in principle. The difficulty is the old one which is equally fatal to the Platonic doctrine of the εἴδη, at least as it is commonly understood and seems to be expounded in the *Phaedo* or the *Republic*; the immutable essence or eternal object and the flux of becoming have been, in such theories, initially so completely sundered from one another that there is no intelligible way of bringing them together again so as to construct from them the simpler ordered and patterned "natural" world in which, when all is said, we live and move and have our daily being; two such halves as these will never make a whole.

This is obviously true, for example, of Santayana's "world" (if you can call it a world). "Essences" being what according to him they are, and the realm of "matter" being a mere ἄπειρον or flux,

it is left an inexplicable accident that some of the essences should be "exemplified" and others not or that the flux should ever exhibit pattern. If Plato escapes the difficulty at all, he seems only to do so by falling back on the imagery used for example in the *Timaeus*, where God puts pattern into the flux by moulding it on the model of the εἴδη, and the employment of this imagery at once brings us up against the apparently insoluble problem whether Plato's Theism and his "doctrine of Ideas" can be adjusted so as to present a single intelligible picture.

A third point of fundamental importance, where once more I find myself in complete concurrence, is that it is necessarily implied by the whole doctrine that all consciousness involves the subject's awareness of its own subjective being as well as awareness of objects (which may be independent of mind); all consciousness is, in its degree, *self*-consciousness.

The point is, to my thinking, irrefutably established by means of the important distinction between primary self-consciousness (the self's awareness of itself as an experiencing *subject*) and secondary self-consciousness (awareness of self as an *object* of reflection), which is a later development only reached apparently, to our certain knowledge, by *human* selves. Bowman does not remark in this connection, as I think he would have been entitled to do, that if authority is wanted for such a doctrine, it can fairly appeal to the name of Aristotle. In my youthful days at Oxford one used to be told, in the spirit of T. H. Green, that the all-important difference between myself and my dog or cat is that the animal, though conscious of shapes, smells, colours, sounds, is wholly without self-consciousness. The animal mind was apparently taken to be no more than what Hume falsely called the human mind, a sequence or collection of "impressions" succeeding one another with incredible rapidity. But if one turns from Green to the *de Anima*, one is at once struck by the difference between Aristotle's and what I may call Green's view of self-consciousness. In Green's view self-consciousness is identical with the power of conceiving one's self as an object for thought, thinking about one's self; the cat or dog, which does not *think*, therefore cannot be conscious of self, and Green seems always to assume further that a creature which cannot think *about* itself cannot *be* a self. (This is, of course, far from obvious. One would be inclined to retort that one must *be* a self before one can think of one's self as one, just as one must be alive before one can know or think that one is alive.) But in Aristotle there is no such exclusive restriction of self-consciousness to beings who can think. It is plainly his doctrine that, apart from thought altogether, a complete act of *sensation* involves consciousness of self as one of its constituents; whatever αἰσθάνεται αἰσθάνεται ὅτι αἰσθάνεται, just as whatever νοεῖ

νοει ὅτι νοεῖ. The difference between my dog and myself is not that the dog has not consciousness of self, whereas I have, but that the dog's self-consciousness is not, like mine, a *noetic* self-consciousness.

It has always seemed to me that in this matter Aristotle is clearly right and Green wrong, and Bowman, I think, has happily put his finger on the source of Green's error. It is that when Green writes of consciousness of self he always means exclusively the genetically secondary consciousness of self as an *object* of contemplation, and completely ignores its presupposition, primary awareness of self, not as a contemplated object but as apprehending *subject*. The pages devoted to the vindication of this primary self-consciousness as inseparable from all consciousness seem to me one of the most valuable sections of the whole work. Even the professed psychologist is still only too often prone to forget that we do not originally make acquaintance with our own selfhood as one among other "objects presented to our notice." Even when he is engaged in refuting Hume, he too often allows the extreme "presentationism" which is at the root of Hume's attempt to get rid of the "idea" of self as non-existent to pass without sufficient exposure. As this particular doctrine is one against which I have long found it important to protest in my University teaching, I am profoundly thankful to have it so fully and, as I venture to think, finally dismissed.

A fourth point I would single out for special commendation is the treatment of *time* which runs through the chapters of *Metaphysical Prolegomena*. Here again we are concerned with getting rid of misconceptions which seem to be a sort of aftermath of the Humian positivism, the reduction of time to mere succession. The first and most obvious criticism on this confusion of time with mere successiveness is, of course, that which has so often been made, that even the time of natural history, geology, astronomy, is marked by duration no less than by succession, and that Hume's attempt to get rid of the duration of "identical" natural objects as a fiction is one which he himself never really succeeds in keeping up. A profounder criticism would be that even when you have, as Butler might phrase it, "taken in" duration as well as succession, you have not yet got to "real time," in which the fundamental distinction is not that of a bare before and after, but that of present, past, and future. Bowman would, I imagine, agree with me that even the *time* of which such natural sciences as astronomy and geology treat is something much more than the *t* which figures as the "time-symbol" in the equations of the mathematical physicist, because it "takes in" duration as well as succession. And I certainly agree with him that what we call astronomical or geological time is not yet really time, because, though it has duration as well as successiveness—a lesson we have all learned from Kant—there is no genuine

present in it. Its "present" is *any* moment arbitrarily selected, just as in analytical geometry any point may be the "origin of co-ordinates," and such "time," having no real present in it, has no real past or future either. And the relation between the present, the past, and the future is not merely that the present succeeds the past and is in turn displaced by the future, but that they interpenetrate: the past, our human "past," lives on in the present, as the present, when it has in turn become past, will live on in the future. *Our* past and future are not "*unborn* to-morrow and *dead* yesterday." Thus time in its full reality, what Bowman calls "spirit-time," belongs primarily to the "subjective" modality, and only gets a hold on the non-subjective in virtue of the existence of such "heterogenous systems" as embodied selves. In view of its great importance for the philosophy of morals and religion, I regard the sections of the *Metaphysical Prolegomena* dealing with "spirit-time" as a contribution to metaphysics of the first magnitude. I would also commend to particular notice the longer examination, with special reference to the writings of Professor E. B. Holt, of the attempt to attribute spatiality to "states of mind." Bowman's reasoning in reply to Holt is minute and subtle, and not always easy to follow, but my own conviction is that, once comprehended, it is final and unanswerable. Never have I seen the complicated web of fallacies and false analogies by which this naturalistic obliteration of a fundamental difference between the physical and the subjective so carefully and triumphantly exposed.

I turn now to the mention of some points where I personally find myself less able to follow the writer—of course, it may be my own fault—or could wish for more full exposition and discussion than he has given us. To begin with one or two relatively minor matters. It is clear, of course, that for a theory which—rightly, in my opinion—regards all consciousness as self-consciousness, the lower animals present a difficult problem; they must be "subjective systems," and therefore selves of some kind, but are they in any sense *persons*, and if not, just how does a *person* differ from a *self*? The question is not an easy one for any philosopher to answer; it is bound to be difficult just because, when all is said, we know so little about the animal's "experience." We have to imagine it for ourselves in anthropomorphic fashion, by starting with the only self with which we have direct acquaintance, the human self, and leaving out of the picture all that seems to be specially characteristic of *homo sapiens*, and this kind of abstraction is attended with all sorts of possibility of error. Probably, I believe, we shall have to conclude that, when all is done, the "animal mind" must always remain as much of a mystery to us as the "angelic intelligence." The "animals" of Kipling's *Jungle Books* are to me quite incredible; they are so

manifestly men disguised in animals' skins. But the animal as imagined, e.g. by T. H. Green, which has no genuine self at all, but is apparently only a succession of "subjective" states which are not the states of any "subject," is at least equally incredible. The truth must lie somewhere between these extremes, but it is very hard to see where the "right mean" can be, and Bowman does not, I think, afford us much help in the matter. From one note it would appear that he is so conscious of the difficulty that he would like, if only honesty to the facts would permit it, to follow the Cartesians in making the animals into mere automata, much as, I conceive, Green would have liked to do the same thing. He sees, of course, that this Cartesian view is quite incompatible with his own conception of the unity of a "subjective system," unless one is prepared to go to the length of Malebranche and the others who denied the reality of infra-human subjective states *in toto*, but he does not seem to have anything definite to put in its place. As I understand him, a lifeless "thing" has no genuine individuality at all; it is one thing or it is many things according as our particular interest requires us to treat it as one or as many: a human person has, independently of our interests, the individuality of a "subjective system" which can react against its own "vicissitudes" and largely determine the succession of its own states. But how far, and in what sense, an "animal" is one, independently of the convenience to us of treating it in some particular context as one, does not appear, and this leads one to note it as an important and unsolved problem for any philosophy which makes much, and rightly makes much, of the indefeasible unity and individuality of personality, to have a definite answer to the question, What precisely is an "animal"? or again, What precisely is a "vegetable"? The more one reflects on the question, the more difficult it seems to be to offer even a tentative answer, but I am at least sure that it is a question which must be very seriously asked and is not to be disposed of by any "cheap and easy" solution.

Even behind this question there is a still more far-reaching one on which I do not feel that Bowman has said the last word. What, in the last resort, is the *physical* "modality of being" which we have to take as not "mind-dependent"? The answer given in our volume is that it is just a vast system of monotonous and purposeless undulations or vibrations of the kind sketched in the latest developments of twentieth-century physics. Whatever is more than this, from the sensible qualities of bodies upwards to the highest "values" of science, art, ethics, religion, is "mind-dependent," and in the last resort owes its very existence to the mysterious presence in ourselves of the fusion of the physical and the subjective in a single "heterogeneous" system. Nature is thus itself something much more than

"the physical," and it becomes strictly true that we are, so to say, fellow-workers with God in its construction: "Ours is her wedding-garment, ours her shroud." Qualities like colour, for example, have no physical reality, yet they definitely belong to *nature*. They are qualities neither of our minds nor of our nervous system, but of the things they are apprehended as qualifying. It is the rose, and not my optic nerve or my mind, which is crimson. Yet, as is assumed, the rose is only crimson because there is a person with a seeing eye to see it as crimson. Apparently the physical, before the appearance on the scene of beings with vision and hearing, had neither colour nor sonority, and, I presume, still has neither where there is no subject to see or to hear. Hence sensible qualities are actually counted as the lowest members of the ascending hierarchy of "values."

Now I recognize, of course, that this view has a great deal to say for itself, and that it is something very different from the really ridicuous old-fashioned theory that colours, tones, fragrances, are "ideas in the perceiving mind." And yet, can we really believe it? Can we really believe that before the appearance of creatures with organs of colour-vision on the earth grass was not green, nor the skies blue, nor the clouds red at sunset, or that the flower which blooms in a lonely wilderness has no "sweetness" to waste on the desert air? And would not the arguments which are adduced to prove the "mind-dependence" of sensible qualities, if they are valid, equally prove the "mind-dependence" of the characters of nature which are studied by the physicist—in which case the "physical" becomes an "unknown *X*"?

There seeems to me a certain failure in logic in the whole attempt to bring sensible qualities under the rubric of "values." Even if we consider only what figures in Bowman's arrangement as the next most rudimentary "value," that of sensible "charm," is it not obvious that whereas when I call a thing charming I know perfectly well that what I mean is that I am charmed by it, when I call it red or blue I do *not* mean that I am reddened or blued by it? Is it a sufficient rejoinder to say that, on the theory in question itself, colour, though "mind-dependent," is not like "charm," actually *subjective*? May it not be that what is "mind-dependent" is not the colour of the rose, but only the fact that its colour is apprehended?

Further, Bowman's exposition leaves one in doubts and difficulties about the consistency of his account of values as "mind-dependent" with the theism to which he regards his metaphysics as necessarily leading. That the mind on which all the "values" are said to be dependent is embodied mind is clear from repeated assertions that the compresence of the subjective and the physical in one scheme of things, from which all value takes its rise, itself is only possible

in virtue of the mysterious and more intimate union of the subjective and the physical which constitutes an embodied self. But does this not mean that the whole range of value itself is only "all too human," and has no significance for God? And what sort of theism are we left with if we are to suppose God incapable of the apprehension of values? (It is true that there might be a way out if we could regard the universe as a body to which God is the soul, but that conception is rejected by the author himself.)

Finally, what is, then, the relation between God and the monotonous meaningless scheme of undulations to which "the physical" has been reduced? We are expressly told that it is one of creation; the physical is created by God. Yet, as Mr. Scott has remarked in an editorial note, the few lines of the text which go beyond this bare statement suggest rather the neo-Platonic conception of a series of emanations, the "physical" arising somehow by a self-emptying of the divine subjectivity to the limit where being is on the verge of lapsing into nonentity. But is it really possible to unite the conceptions of creativity and of emanation? Is not genuine creation, in its very nature, conscious, intelligent, and freely willed, whereas "emanation" must be involuntary, unintelligent, and, in fact, unconscious? The history of Christian thought from Augustine to Descartes seems to me to be one of an emancipation from the neo-Platonic emanational metaphysics with which Christian philosophy inevitably began, and the emancipation, so far as I can see, was due to a justified conviction that there is a real antithesis between the neo-Platonic and the Christian conceptions of the relation of the world to God. I cannot help thinking that if Bowman had lived to work out the theism for which his volume provides *prolegomena*, he would have been forced himself to make his option between a doctrine of emanation and one of creation in the full Christian sense of the word, and I have no doubt for which alternative such an *anima naturaliter christiana* would have decided.

POLITICAL ARGUMENTS: POLITICS AND ETHICS

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Nobody who reads this article is likely to need convincing that there are bad political arguments. But, however many of them are bad, unless there are also some good ones, we can do nothing by reason in politics, there is no possibility of settling disputes rationally or in any other way except by fighting and there could be no ground either why we fight for any one cause rather than any other or why we should fight rather than make peace or vice versa. But surprisingly little has been said by philosophers about this important type of argument. However, this omission is less surprising and less harmful than it might appear at first sight because all thoroughgoing political arguments are, I think, at bottom arguments as to what ought to be done and therefore ethical arguments in a wide sense of the word, and philosophers have certainly said a good deal about ethical arguments. However, it is well worth while treating political arguments separately, especially in these very political days, and considering their particular character. By political arguments I mean, not the abstract arguments of books on political philosophy, but the everyday concrete political arguments of the platform, the press and the meal-time conversation. What is their logical nature in so far as they are not mere fallacies or unsupported assertions, and can the philosopher *qua* philosopher say anything that will help in such discussions and contribute towards the replacement of bad arguments by good, a most desirable consummation and one the achievement of which in all countries would certainly have prevented the present war?

As I have said, I think that all thoroughgoing political arguments are really ethical arguments. This may sound rather odd, and you will note that I have added the question-begging adjective, thoroughgoing. The point is that in very many cases a political argument concerns only the best means to a given end, which may be bad and at any rate is not the only good end, and therefore might conflict with other ends. But obviously the *ultimate* aim of political argument should be to decide what is the best course to adopt in view of all relevant considerations, and this is certainly an ethical question. If the politician, as is so often the case, omits to consider important effects for good or ill which his measures may have, he is either immoral or mistaken or both, and has not answered the poli-

tical question rightly. This position would not be contradicted even if I held the view—which heaven forbid I should hold!—that the only duty of the politician is to further the interests of his own nation in disregard of everything else. If we held this view we should be holding that the right thing for a British politician to do was just always to further the interests of Great Britain, for a German politician to further the interests of Germany, etc. This is itself an ethical judgment, though it dismisses as irrelevant considerations which the kind of ethics I should approve would find relevant. Even a political argument that is based simply on the conduciveness of certain means to a given end assumes the proposition that the attainment of that end is good unless it is simply a hypothetical question by somebody who does not believe in the end but is interested in considering whether the means are likely to attain it, e.g. a discussion by Englishmen, who would not regard a German victory as good, whether some particular strategic move by Germany was a prudent one with a view to improving her position in the war. I conclude that political arguments are a species of ethical arguments, except in the hypothetical case which I have just mentioned that also has its parallel in a consideration of individual actions, where we too sometimes abstract from the goodness or badness of the end and consider only the efficiency of the means to it. This statement is not intended to imply that a person who held a naturalistic or an egoistic theory of ethics or denied categorical obligation could not use political arguments. What he does presuppose if he uses political arguments is that some courses of action are for some reasons better than others, and the question whether one course of action is better than another is a question of ethics, at least in the wide sense of that term, because it deals with values. An egoistic theory is after all a theory of ethics.

It would indeed ordinarily be said that certain questions as to which course it is better to pursue in a situation calling for a choice are not ethical questions, but questions of expediency, but I do not think this distinction can be made in regard to political arguments. The reason for calling certain questions questions of expediency, and not questions of ethics, is that it is not usually held to be ethically obligatory on a person to perform an action when the only reason for the action is that it is conducive to his own interests, at least his hedonistic interests, even where the action does not conflict with his obligations to anyone else. In this case, to act in accord with his own interests would be described as reasonable, and would be admitted to be perfectly right and justifiable, while to act against them would be stigmatized as foolish, but people would not ordinarily say that he had not done his duty if he did not act in accord with his own interests or that he had done anything which he ought not to

do in the moral sense of "ought." In the case of political arguments, however, what we are concerned about is not what an individual ought to do for himself, but what a governing body ought to do on behalf of the people for whom it acts, and therefore this distinction cannot apply. For, while it may be urged, rightly or wrongly, that it is not a matter of duty but a matter of expediency for an individual to serve his own interests, there can be no doubt that it is his duty to serve others' interests. Now the individuals who compose a government are not merely acting for themselves individually, but for those whom they govern, and therefore if an action proposed is in accord with the interests of the nation, i.e. those they govern, and there is no countervailing objection against it, it is clearly their duty and not merely expedient to perform the action. But, even if the above distinction between duty and expediency is admitted in individual ethics generally, this point clearly cannot serve as a ground for a fundamental distinction between politics and ethics, for a similar situation occurs in ethical arguments about individual non-political action when the individual is, e.g., acting as trustee. Even if it is only expedient and not a duty to invest one's own money to the best advantage, to do so is a moral duty when one is investing money for a ward.

No doubt there is another sense of the distinction between duty and expediency in which it is of prime importance to make the distinction in politics. The "expedient" is often taken to mean what is conducive to the material interests or aggrandizement of a particular country, and in that sense it is of course not always a duty but very often the contrary to do what is expedient.

So political arguments seem to be a species of ethical arguments distinguished from other ethical arguments by the fact that they are concerned with those actions which are performed on behalf of States. I do not wish to discuss the analysis of the notion of a State now, but I am not assuming that the term is unanalysable, or that there is a peculiar entity called the "State" over and above the individuals in the State. Is there any difference in logical character between political arguments and other kinds of ethical arguments? It does not seem to me that there is. Both political and most, if not all, other ethical arguments depend largely on a consideration of consequences, but a mere consideration of the consequences cannot settle whether an act should or should not be done unless it is assumed that the consequences are good or bad. Further, where some likely consequences are good and others bad, there has in both cases to be a weighing against each other of values, and in both politics and individual ethics there are certain "*prima facie* duties" which should not be violated even if their violation will apparently in a given case produce a little more good than their observance, whatever is the

ultimate explanation of this.[1] In both there are some general rules which hold good in at least ninety-nine cases out of a hundred, but in both it is very hard to formulate laws of conduct which it would under no conceivable circumstances be right to violate, though it is very dangerous, even more in politics than in private ethics, to emphasize this point much, because of the risk that, once the minds of people are familiarized with the possibility of exceptions, they will make far too many exceptions. And I think any *kind* of argument that is used in ethical questions might be used in dealing with political questions.

The only way indeed of introducing a fundamental distinction between ethics and politics would be if we maintained either that the actions of States ought not to be subject to ethical considerations at all or that the ethics of States was radically different from the ethics of individuals. I have never seen any argument for the former view, unless indeed we identify ethical obligations with legal coercion, and since it is perfectly obvious that State action may produce a great quantity of good or evil, it is hardly possible to deny that some State actions, i.e. those which produce the good, are at least preferable to others, i.e. those which produce the evil. This is sufficient to make consideration of what the State should do an ethical question, in the wide sense in which I, like most philosophers, have been using ethics, even if the notion of specifically moral guilt were not applied. If we consider the notion of guilt, the difficulty arises that the State is not a person, at least in any except a very metaphorical sense of that term, and therefore cannot, strictly speaking, be morally to blame, but this is only to transfer the guilt to the rulers and to some extent to those subjects of the State who were aware of the real character of the action and yet supported the decision of the rulers.

There would again be a fundamental distinction between politics and individual ethics if the ethics which applied to the State, though still an ethics, were quite different in character from the ethics which applied to individuals. I again cannot see any possible ground for holding this to be so. I should indeed like to say that the ethical laws governing the State are exactly the same as the ethical laws governing the individual, but there are real objections to saying this, e.g. it would be wrong of me as an individual in general to take money from a rich man against his will in order to give it to men who had less, and it has, in fact, been used as an argument against measures of social reform that it is just as dishonest for the State to take money from the rich in order to spend it on measures for the benefit of the poor as it would be for an indi-

[1] I am not necessarily ruling out an ultimate explanation in terms of "Ideal Utilitarianism."

vidual to do this, but I cannot admit the argument. Since honesty has to be defined by relation to the established rules of property and the Government can alter these within the State, the State or Government acting for the State is in a radically different position from that of the individual as regards property and is not acting dishonestly if it taxes the rich extra, as I should be if I took their money. On the other hand the State or Government is acting dishonestly towards its subjects if it, e.g. deliberately deceives them by promises which it never fulfils, for while the laws about property are conventional laws dependent on the State, the law that you ought not to lie and break your promises is not, and it will be acting dishonestly if it takes what belongs to other States because it is not the function of any one State to decide the rules of property relating to other States. And of course it may be acting wrongly in altering the laws of property in a given way, i.e. if it does so arbitrarily and unfairly, or in such a way as to produce bad effects. But the example I have given shows that there are limits to the application to the State of laws derived from a consideration of individual morality. But this is certainly not sufficient to constitute a difference of type between political arguments and other ethical arguments. After all, the right action for the individual will differ widely in different situations, e.g. an individual if dealing with his child may be justified in taking its possessions away from it in circumstances where to take them away from another adult would be quite unjustifiable. It is not therefore just because it is a State which is concerned but because the circumstances are different that the ordinary moral laws as to stealing do not apply. There may be special reasons in certain cases why a State ought not to act in the way in which an individual ought to act in similar circumstances, as there may be special reasons in certain cases why an individual ought to act in a way different from that which would usually be right, but the *onus probandi* is always on the person who wishes to maintain that this is so in a given case. He must show what there is in the specific circumstances that justifies him in saying that the State is not under an obligation to act in the way in which the individual under parallel circumstances ought to act.

A somewhat greater difficulty arises in connection with promises. It might be argued that, since the State was not a person, it could not make promises and that therefore the duty of keeping treaties could only be based on the general good and not at all on the special duty to keep promises. Nor could this difficulty be altogether avoided by merely replying that the individuals who make up the Government of the State have made the promises contained in a treaty, and that it is their duty to keep them. For suppose the Government changes? The people who made the promises now cannot do any-

thing to keep them since they no longer control the policy of the State, and, since the members of the new Government did not make the promises, how are they bound by them? I am inclined to think the answer to this question is that, if the leaders of the former minority who are now in power opposed the treaty at the time it was made, declared then that they would repudiate it if they ever came into office and denounced it as soon as they did come into office, they are exempt from any obligation to observe the treaty merely because the preceding Government promised on behalf of the State to do so, though of course still subject to any obligation to keep it which could be based on utilitarian grounds or grounds other than the obligation of promise-keeping as such. If they omitted to do any one of these things, where possible, they have by tacitly accepting the treaty put themselves under some degree of obligation, and, if they omitted to do them all, under a much greater degree, but not so strong an obligation as if the new Government had itself signed the treaty. Complications arise if conditions have radically changed in such a way that the keeping of the treaty hinders rather than fulfils the purposes for which it was originally intended, or if it is a treaty to do something which violates other obligations, e.g. to partition a third State, and however much one may deplore the unscrupulous treaty-breaking which occurs in certain quarters we cannot say without discrimination that all treaties are absolutely binding in all circumstances, but similar difficulties about promises arise in the case of societies not identical with a State and even in individual cases. I may, for instance, appoint an agent on the understanding that I shall be bound by the terms he makes, and then I shall be bound by them even if I do not approve of them when they have been made. Is there a difference in principle between this and the case of treaties made by a State? So I hold that there are only minor differences of degree rather than of kind between political and other ethical arguments, and that the character of the former is essentially the same as that of the latter. We require no special branch of logic for politics and no set of standards and values that do not prevail in ethics as such.

Now in order to decide the question what ought to be done in a particular case, I have said that we must answer two different kinds of question: (1) the question what is good or bad, and (2) the question what in fact the effects of the alternative proposed actions are likely to be. The former question alone is specifically ethical, the latter is factual and the answer to it must ultimately be based on inductions of the sort which establish causal laws. An answer to both is necessary for any ethical judgement as to what we ought to do in a particular case. Even if we were to take a thoroughly Kantian view of ethics and hold that what we ought to do could always be

deduced from universal laws which could themselves be seen to be true independently of consequences, we should still need factual knowledge to determine the best means of carrying out these laws, as indeed Kant would no doubt admit, and on the other hand, even if we adopted, say, the hedonistic point of view we should still be presupposing the judgements that pleasure is good and pain bad, and that the right action is the action which produces the greatest balance of pleasure over pain, which are ethical, as opposed to factual, propositions. I think the distinction between these two kinds of question is important when we consider the question of what we call democracy as opposed to other forms of government. (A "democracy," in the modern sense at least, is not a State in which the people as a whole govern everything, but rather a State in which the democratic element is strong.) Now it seems to me that if we are considering simply the likely effects of a measure or the most efficient means to a given end it is the expert and not the ordinary voter who is best qualified to decide, so that, if politics were confined to such questions, it would be much better to have an oligarchy of experts in complete control than to have any form of democratic control, provided that the experts appointed were reasonably honest. But expert scientific knowledge, being purely factual, does not give those who possess it superior qualifications to decide between rival ends or to decide whether a bad means should be adopted to a good end. In such questions the expert need not be any wiser than the plain man, and though I should not be prepared to say that intellectual education is no help to answering such questions, it is a fact that a person who has had very little education may have more ethical insight into particular cases than another man who has obtained a first-class honours degree in philosophy.

In an ideally working party system I am inclined to think that each party would represent a certain general conception of the end of the present policy of the State, the voter would vote according to which conception he preferred but would in voting not consider the question as to what were the most effective means of carrying out this end except in so far as the means involved evils, e.g. wars or heavy expense, that had to be weighed against the advantages of the end, or goods that had to be added to it. Expert civil servants would prepare a schedule of the important effects of any proposed measure, and the speakers in each party would dispute mainly not about empirical facts and likely consequences, but about the goodness or badness of these effects, emphasizing respectively the advantages or disadvantages of the measures, according to which they thought more important. The electorate would accept the experts' opinion of the facts and likely effects and vote according to which series of effects was most in accord with their ideal for their country or their sense of values. It would be the experts who did the disputing about

facts. Of course it does not work like this in practice. Arguments as to matters of fact or likely effects which ought to be settled by experts on statistical evidence are hopelessly mixed up with questions of value. But even so it is certainly true that in this country at least each of the three main parties—Conservative, Labour, Liberal—represents a distinctive ideal for the country and a distinctive system of preferences or general outlook as to the kind of things which are best worth preserving or which it is most urgent to change in our society. And I should think it is this general unformulated outlook as to what is good or evil, due partly to a man's original temperament and partly to his education, his economic position and his experience in life, which far more than anything else determines on which side a man will vote at an election. Is a man so impressed by existing economic evils and social inequalities that he desires very drastic change strongly even if it may be somewhat risky, but not to the point of wishing for a revolution? Then he will probably vote Labour. Does he value mainly stability and order, and fear that, if one tampers much or rapidly with existing institutions, something very precious which is contained in the continuity of political life and the traditions of our ancestors will be destroyed? Then he will probably vote Conservative. I will not try to formulate the outlook of the Liberal, the Pacifist, the Communist or the Fascist, but they certainly seem to represent four other decidedly and genuinely different schemes of values. I do not deny, of course, that the economic factor is important, though it is certainly not all-important, but it operates through affecting this general scheme of values. It stands to reason that a rich banker's and an unemployed miner's schemes of values relating to politics are likely to be different. I am speaking of this country in the present generation. It is indeed by no means always the case that party differences correspond to real and important differences in scale of values, for the differences, though they always exist, may run across the parties. When I was in the United States in 1926 I asked about twenty different people what the difference in policy was between the two main political parties, and they all said that there was not any, except one man, a politician, who said that there was in theory but probably not in practice. I do not profess to know much about American politics, but it seems that the presence of the democratic element was secured there by the fact that, though their general principles did not differ much, both parties put into their programmes the measures which they thought the majority of the voters would welcome, so that these had a good chance of being carried whichever party won the election. (No doubt the political situation in the United States has been quite different in recent years, and what I said about there being no difference between the parties would not apply now.)

I have not the time to attempt a justification here of the demo-

cratic element in government, but certainly the distinction between the two kinds of questions involved in a political dispute suggests a principle of division of labour and throws some light on the working of political institutions in daily life. We must admit, however, that it is more difficult to separate the two kinds of questions in most political disputes than it is in most doubtful cases concerning individual action. In practice, I think, questions about individual conduct usually fall into one of two classes. (*a*) It may be the case that the end which ought to be pursued can be taken for granted without serious discussion, but that the knowledge of the best means for attaining the end may only be obtainable by scientific investigation of an elaborate kind or by accepting the results of that scientific investigation when performed by somebody else, e.g. a doctor. In such cases the question is obviously one where a scientist and not a moralist is required to help. (*b*) In other cases the question what ought to be done needs little or no scientific knowledge, but presents great difficulties because of a clash of different values or of *prima facie* duties. It is true that even in such cases we must have some knowledge of the likely consequences, but this may be merely common-sense knowledge of the kind which everybody possesses or may be so elementary that, although, strictly speaking, part of some science, it has become a matter of common knowledge for everybody. Here the interest lies in the strictly ethical and not in the technical side of the question. There are, of course, plenty of cases where neither question presents intellectual difficulties or both present great difficulties, but most questions of individual conduct which call for discussion fall into one of two classes, the class where there is no ethical difficulty in the decision but technical knowledge is required, and the class where there is an ethical difficulty but technical knowledge is not required. But with political arguments, owing to the greater range of the effects of any political measure, the separation of the two questions is generally more difficult, and this is responsible for some of the chief difficulties of political government. On the one hand it is beyond the individual to make a really adequate judgement in most cases without the help of the expert, and on the other it is, because of the intermixture of questions of value and questions of fact, dangerous to leave most political questions entirely to experts. As I suggested, representative government with the party system goes at least some way towards a working solution of these difficulties. But when you have voted and selected your members of Parliament, there remains this further difficulty. Not only are questions of value and questions of fact liable to be mixed up, but there is apt to be a clash between different values; it is not only that expert factual opinions and ethical valuations are both needed, but also that there is liable to be a clash between experts in

different spheres and a need for a balancing against each other of the values belonging to either. All the less fundamental, though still important, clashes of this type cannot possibly be referred to the electorate. For government we need experts because the effects of the large-scale actions of politics are so complicated, but also just because the problems are so complicated they are liable to affect a number of different departments of life and therefore can rarely be left to any single class of experts, while if experts in different subjects are employed there must be somebody to correlate the advice of the different experts and in the case of a clash to decide which interest is the most important. For this reason I do not think that the small body of statesmen who make the final decisions, the Cabinet, should consist of specialized experts. The most important characteristics, apart from goodwill and moral integrity, that they should possess (1) are broadmindedness involving sensitiveness to all the different kinds of good or evil which a political measure may bring about, and (2) decisiveness and promptness of action in making up their mind in an emergency and then firmly doing what they think best. These are two characteristics which are notoriously difficult to combine, yet one is liable to be extremely dangerous without the other. I do not mean, of course, that a specialist cannot possess these characteristics, but that he is no more likely to have them than anybody else and that he should gain office not because he is a good specialist but because of his possession in high degree of these two qualities. This suggests also that the best education for a statesman is a broad one rather than one extremely specialized.

Now, when there is a political dispute, what is the philosopher *qua* philosopher to do about it? Can he do anything to help? It is certainly not his business as philosopher to ascertain the empirical facts. On the other hand, questions as to value are apt to resolve themselves into appeals to intuition, so that it may seem that there is nothing that the philosopher as such can do in questions of ethics and politics. Indeed, it might be suggested that there is no escape for any *reasoning* in ethics or politics except the inductive reasoning concerned with the prediction of consequences. This is, however, not the case. The philosopher, and for that matter the non-expert who is not a philosopher but has good sense, can do quite a number of things to help without providing new empirical evidence. The philosopher cannot by himself make the decision, at least *qua* philosopher, because this requires both empirical knowledge and an appreciation of values for which philosophical argument cannot provide a substitute and which are not susceptible of logical proof, but there are many things which he can do. (*a*) He can point out confusions which sometimes make a fallacious argument appear good. (*b*) He can point out what kind of ethical theory a man is

committing himself to if he supports a particular policy on the grounds he gives, and this may cause the man to doubt the validity of his own decision. (*c*) He can help to sort out the relevant factors, in particular distinguishing the technical and the ethical questions. (*d*) He can help in applying the coherence test to the views of the disputants and see how far they are capable of taking their place in a consistent system that could equally be applied in all parallel cases. (*e*) He can list the values affected in order to call attention to some which are apt to be overlooked and classify them so as to obtain some clue to their relative importance.

In order to illustrate this, let us take the question of pacifism. I do not think this to be a question which could be decided from philosophical principles alone, any more than most political questions, but the philosopher can help, and I have taken it merely as an illustration to show that the philosopher may say something relevant while acting as a philosopher. Those who think the pacifist is too obviously wrong for his views to be worth discussing may be reminded that there are very many possible wars in which a much stronger case might be made out for pacifism than in this one, and then even they would do well not to despise the help of the philosopher. (1) The philosopher in discussing the question will probably have to start by removing certain confusions that lead to fallacies, a prime cause of confusion being the failure to distinguish two different questions. He may point out, e.g. on the one hand that opponents of the pacifist often confuse the proposition that force is always wrong and the proposition that modern war is always wrong, modern war being a particular exercise of force which is open to objections from which other exercises of force may be immune, so that the second proposition is much less unplausible than the first. On the other hand, he may point out to the pacifist, e.g. that even supposing it would be better if the nation as a whole adopted passive resistance instead of war, it does not necessarily follow that, where it is quite clear that the nation as a whole is not going to do this, therefore individuals in the nation who think it would have been better to do this ought to refuse to help in the war. This is not to prove that the pacifist is right or wrong: but the first point removes certain arguments used against pacifism, and the second at least separates two questions, which may perhaps both be answered in the same way, but are at any rate different questions and must be settled separately. There are no doubt many other confusions which occur in discussing this subject. (*b*) The philosopher might point out the difficulties of admitting any absolutely universal *a priori* laws about external actions, which should make the pacifist reluctant to base his position simply on some general maxim, such as "Thou shalt not kill." On the other hand, he can point out that

there is a presumption against making a particular exception to a law which we generally hold to be right, and explain the circumstances on which this presumption is based, which are the uncertainty of the good consequences we anticipate from a breach of law and the tendency of bad means to produce bad effects. Concluding that in order to justify the breach there must be very special grounds indeed, he may then guide the discussion as to whether these grounds are present in the particular case or not. (*c*) He can clarify the issue by showing the irrelevance of certain difficult questions of fact, e.g. the precise degree of disinterestedness of British policy in the past. (*d*) He can consider the possibility or impossibility of consistently working out an ethics which meets force by love, not only in the abstract but with regard to the fact that this course has not been adopted in the past, thus leading to complications which make a sudden change very much more difficult. (*e*) He can perhaps point out fresh evils of a less obvious kind that are commonly overlooked in either war or in subjugation by the enemy. There is, indeed, likely to be more value in this kind of suggestion in other political questions where it is not already so extremely obvious that the two alternatives are both very evil, whichever be the less bad, yet it is quite certain that there are great numbers of people even now who grossly underrate one or other of the two evils in question.

The above arguments, none of which are merely empirical inductions and all of which are concerned with the ethics of the question, certainly can help to clarify the situation and make a right answer easier. They cannot by themselves decide any question apart from empirical knowledge and an insight into values, which is not a matter either of logical proof or empirical generalization, but they can help to decide. Provided it can help, one must not despise philosophical thought in ethics and politics because it cannot of itself make good men and good States and requires help from the empirical sciences and from intuition of values. Neither goodwill without thought nor intuition nor empirical generalization nor reasoning is by itself adequate for ethical practice, but each requires the help of the other three, and the philosopher should be specially qualified to make suggestions about the fourth factor required.

No doubt professional philosophers and students of ethics and political philosophy in the academic sense are not the only persons who can give this help I have mentioned, but at least it can hardly be doubted that some training in philosophical ethics and politics is likely to enable one to help more efficiently in deciding ethical and political questions. I therefore think it a great misfortune and a serious defect in our educational system that a larger number of people do not make at least some elementary study of moral and

political philosophy, if not at a university, in the last years at school. In several other European countries it has been the practice to teach in schools more difficult and abstract parts of philosophy than are ethical and political philosophy.

I doubt whether it is possible to draw a sharp line between philosophy and intelligent non-philosophical thought in ethical questions, and some acquaintance with philosophical discussions should at least be a great help in clearing away confusions which hamper a man both in forming reasonable judgements in politics and in settling the practical ethical problems of his own life. The help possible must not be exaggerated, but it must not be denied.

CETERIS PARIBUS—THE DANGER OF THE INCREMENT

LORD STAMP, G.C.B., G.B.E., F.B.A.

THE final persistence of democracy depends upon whether its right decisions outweigh the wrong ones in number and value, though conceivably one really bad decision might ruin the structure built on all the right ones. It is passing from the stage where a few reasoning leaders govern the masses through their emotions, to the next perilous stage in which every man's thoughts matter. Right decisions depend upon access to relevant facts and doing the right thinking about them. It is of the essence of Nazi philosophy that general liberty of thought is self-destructive, the common man not being rational; it is of the essence of Nazi practice to flatter the many by the pretence that their thinking does matter, but to control and modify the whole supply of factual material upon which they must reason. One declared to me once that he favoured freedom of thought and was not afraid of it, for if he was allowed to supply the "facts" any ordinary rational mind could come to only one conclusion, viz. the one he intended. And in the process the ordinary man might remain proud of his reasoning power, so long as he could be sheltered from seeing the falsity of his conclusions. Control of facts must be perpetual, and cats must never be allowed to get out of bags. But in a democracy, where facts are all born free (and much too equal), it is the thinking about them that really matters. It is putting it mildly to say that a democracy can be led just as far astray by itself as ever it can be by a dictator. From which it is a short step to say that current *modes* of thinking matter fatally. It is the province of the philosopher-logician to watch the fashions in thought-processes, to warn the educators, to lift the standards. We are already "wishful-thinking" conscious, and watching out to see with more or less success that the emotional strain in us does not overwhelm or select our facts. (I do not know who invented this apt term—or how you would put it in French—but a good slogan can really get such a danger "across" the people, and this has certainly proved to be a slogan.) But as more people become aware of this danger about facts, guard against it, and become rational thinkers, the problems of *formal thought* assume greater importance. In my judgment, the greatest source of intellectual error at the present stage of democracy is an extension of what the classical logicians called the "Fallacy of composition." This extension covers both the formal elements in

those earlier concepts, and some of the perils of analogy and induction or generalization which are due to an over-easy use and wider spread of certain basic scientific assumptions. And as the latter perils are more than formal they are not confined to new or less educated thinkers, but are prevalent amongst their leaders. This process I should now call the "danger of the increment," or, perhaps more fundamentally, the fallacy of *ceteris paribus*.

Watts (*Logic*, III, iii, 57), in 1724, defined the sophism of composition as "when we infer anything concerning ideas in a compounded sense which is only true in a divided sense. If anyone should argue thus: Two and three are even and odd; five are two and three; therefore five are even and odd." By 1864 Bowen (*Logic*, ix, 278) took it beyond the merely formal use of words: "An instance . . . is what may be called the Spendthrift Fallacy. All of these contemplated expenditures (taken separately) are of trifling amount, therefore all of them may be incurred (together) without ruining me." Later Creighton (*Logic*, VII, 5546) made it not merely *formal* in words and then *additive* in idea, but also *functional* and interdependent: "Something held to be true of a whole when only true of one or more parts taken separately or distributively. We cannot regard a whole as simply a sum of parts, but must consider the way in which parts react on each other." This, then, reaches the concepts that have now been made reasonably familiar in popular thought: (*a*) that a whole is something more than, or different from, its parts and may possess something not contained in any part; (*b*) that the laws of the crowd may be different from the laws of the individual; (*c*) that the special qualities or powers of a whole inhere in the *arrangement* or pattern of its parts, and in consequence the significance of two identical "parts" for the whole may differ completely according to their position in space if the whole is spatial, and in time if the whole is a process. An average harvest may be the product of x hours of sunshine and y inches of rainfall, but there is every variety of harvest possible according to the arrangement of these inches and hours. This consciousness of the antithesis between the whole and the part is slowly colouring common modes of thought. So also, but much more slowly, is the concept of interdependence becoming a background to inference.

Many apparent fallacies of composition are, on analysis, found to be formally invalid syllogisms, with an undistributed middle term, of the familiar type: All P is M; this S is M; this S is P. These, if reduced to simple terms, do not deceive even the unguarded, but wrapped up in four hundred octavo pages may "get by" only too easily.

Most ardent reformers look for the defects in a system and prescribe their remedies, assuming that all the good points will remain as

before and that their efforts will result in a clear addition to the general welfare. They carry the doctrine of *ceteris paribus* to its limit, disregarding the fact that the old virtues may not survive the change and that the new introductions may let in new perils alongside. Humanitarian measures may weaken individual self-reliance; the "dole" may endow idleness or immobility; social security may destroy initiative. For the rest of the world is never quite the same after such change. There is never a boon without some price. Those who aim at redistribution of income or wealth usually assume that the total to be redistributed will "stay put," whereas the very process may affect the current and future aggregates profoundly: (*a*) many statistical values (e.g. large houses, pictures, diamonds) depend on the prevailing distribution, and with a radical change in it and the absence of effective demand, may tend to disappear; (*b*) incentives to wealth-production alter by the change, and (*c*) total savings must accumulate at a different rate, and so affect the production of total wealth in the immediate future. The results of redistribution may be good or not—that is not our subject—but the change is a dynamic one. Most redistributors think more of the size of the fraction than the size of the aggregate of which the fraction is a part—25 per cent of 75 seems somehow better than 20 per cent of 100, for we are governed by comparisons of parts rather than an appreciation of absolutes. A well-known literary figure of our time once repudiated the socialism which would pull all men down to a common level. His socialism, he declared, would pull them all up to his own level, with a villa and two servants!

Whatever may be the ultimate social reality behind the Pareto line of income distribution, its persistence, and universality—I will not say the *inevitability* of its form—make us realize that we may do much more for humanity by shifting it unaltered steadily to the right (by increasing the income to be spread) than merely altering its slope (by altering the proportions) and possibly letting it fall to the left in the process. I do not disguise my own feeling that *comparative* well-being may be more fitted to secure human happiness than any absolute level, however high, with the envy caused by inequality rampant. But most people think wishfully that improvement in the comparison will also secure the higher level.

The scientific background of causation and laws of universal application make it instinctive in man to-day to generalize. He often does this on inadequate "sampling" or unconsciously wishful selection or persuasion—hence catch-phrases and quack medicines—as one who having drawn four black balls from a bag containing equal numbers of black and white, declares that it is a bag of black balls. But the fallacy of composition is more subtle. It is the declaration that an attribute attaching to a certain number or pro-

portion of instances can be extended to many more, or even to all, because it is assumed everything else will remain equal. But if the attribute is a comparative *relation* to the others, this is impossible—some can be taller than their fellows, but not all. (Though, indeed, the inn toper in *Punch* did declare his belief that "there ain't one average woman in fifty!") If the attribute is a relation of the part to the whole, it may also refuse to stand multiplication. If the attribute of the part is dependent for its existence upon the remaining parts being different, most obviously extension is impossible.

In most cases, then, we are called upon to consider an "attribute" attaching to certain items or individuals, which it is proposed to extend to many more, or to all, individuals. Because of the false postulate *ceteris paribus*, it is assumed that this can be done without change in the character or "quality" of the attribute. A tentative classification can be made of these "attributes" according as their "quality" is dependent:

1. Upon absolute *limits* of time and space.
2. Upon a proportion to the whole of which they form a part.
3. Upon a definite *opposition* of the remainder.
4. Upon a contrast to the other items or individuals.
5. Upon a *relationship* to other individuals.
6. Upon a *functional* connection between the parts and the whole.
7. Upon aggregate "*population*" in a closed environment.

It is not pretended that this arrangement is clear cut. Some examples may be brought under more than one heading, but it serves to point to the leading characteristics involved.

The extreme quiet of the mountain ridge and the solitude in which a man may find himself and rise to greater things is spiritually educational. If it is so good for one or two with fat purses or stout muscles it ought surely not to be their monopoly, and, apart altogether from our democratic foibles, we should rejoice at every step taken to make the experience available to everyone, however poor or feeble. It ought not to be *denied* to anyone. At first we "write it up," and those who learn to enjoy it are multiplied to a point of maximum density—at first facilities are provided that *positively* add to the experience because they rid it of certain distracting fears—the track is marked, the danger spots guarded. But beyond this point every additional person "enjoying" the scene destroys the quality of the experience. When we are thoroughly democratic, and excursions are organized, cheap facilities of access provided, and all the paraphernalia of mass attack are present, solitude and quiet and their inspiration have gone. Who can think of certain experiences over a lapse of time, and the change wrought by popularization—Jung-frau, Mont St. Michel, Cheddar Gorge—but realize that by

adding one to one steadily the whole structure of quality is vanishing. Let no one deny the multitude access to all the enjoyment possible, but equally let no one pretend that particular qualities can be multiplied *per capita*. It would seem rather that the particular quality is a fixed quantity, and if the participating divisor is small the share for each is great; if it is large the share may vanish to zero, or even (as on a Bank Holiday on Box Hill) be a minus quantity. Stephen Leacock, in one of his best, described the townsman cleansing his soul by going back to solitary nature in the wild woods —and running into all his neighbours doing the same. It is not possible for all to be "far from the madding crowd."

Liberty, in the sense of freedom to do a particular thing if one so desires, is rarely analysed into its almost rigid mathematical relation between parts and the whole. It may be literally true that everyone of the five hundred people in a hall is "free" to leave by a particular door at any moment. But if they all try to enjoy this freedom *at any particular moment*, it disappears. Its reality depends upon space and time functionally but inversely related. Given plenty of time a small space will suffice for all to "enjoy" their liberty. Given plenty of space, a little time is enough. In many ways the reality of liberty varies inversely with the number of people who try to use it. It cannot be enjoyed at all unless it is restricted by accepted regulation of the traffic. Here the attribute belonging to every individual is not liberty at large, but "conditional liberty," and when so interpreted may be extended without difficulty. But the "condition" has to be kept to the very minimum to make the liberty as large as possible. And this, of course, is the real problem of living in society, illustrations of the degree of limitation meeting us for settlement every day. The absolute limits of time and space prevail. Or again, everyone is "free" to become a dentist if he so wishes. But when the number of dentists exceeds a certain *proportion* of the population, the "freedom" has so little practical value that it amounts to a compulsion to become something else or starve. We usually acknowledge these considerations by saying that the real limit to the exercise of freedom should be when it interferes with the freedom of others. But we need to go further. There are individualistic souls who press their right to do as they like, to be a law unto themselves so long as they do no visible harm to others. They recognize no standards of right and wrong. I have sometimes found, with young people in the puppy stage of tearing everything up, an unwillingness to recognize authority, tradition, custom, or even conscience, as final arbiters of conduct, or right and wrong. They are shrewd enough, too, to allege that even a good conscience is only a hedonistic impulse to spiritual comfortableness or pleasure; and also to see that it is relative in time and place in its results. But when posed with the question:

you wish to do this or that—suppose that *everyone* did it, would the world that resulted be the kind of world that you would like to live in? they are given a new test of fitness or rightness. The appeal to generalization sometimes succeeds when others fail.

The broader arguments for Protection or Tariffs involved the fallacy of composition by way of contrast. Because it could be demonstrated that a tariff benefited this or that particular country, therefore tariffs were good for all. Because one industry grew fat under protection, therefore all the other industries of the country might do likewise. The general proposition was "proved" by appeal to particular instances. The proof was defective not because of false induction, some countries being different and incapable of the attribute, and the generalization therefore invalid, but because of progressive deterioration in the quality demonstrated with every additional case. An analogy makes this clearer. No one will dispute that in a crowd gathered round some spectacle, a man who stands on an orange-box gets an advantage and looks over the heads of the others, and several more may do the same with some gain. But if all stand on orange-boxes the advantage disappears or they are just where they were at first, except that their foothold is precarious and no one can afford to get off! As the practice approaches universality its value vanishes and each additional person helps to destroy it. A refinement of the orange-box doctrine appears when it is suggested that only short people should stand on boxes, to remedy their natural deficiency and give them equality with natural endowment—the economic parallel is the doctrine of tariffs at levels arranged just to equalize costs with those better endowed. This is not the place to examine the general tariff controversy in its logical forms, but it ought at least to be pointed out that the arguments for free trade often involved the fallacy of division. "Because free trade is best for the world as a whole and maximum wealth as a whole, *therefore* is best for Ruritania." Tariff arguments for particular countries also involved this. Because tariffs are good for the United States on balance, therefore Texas ought to be happy. In truth, in no case of comparative advantage can any newcomer seek to share them, *ceteris paribus*. What is the limiting factor of the number of buildings in New York which can profitably be skyscrapers?

Now take an attribute whose effective quality for one case is dependent upon other cases not possessing it, indeed upon their definite opposition.

Machiavelli and Hitler openly preach as a maxim of statecraft the practice of systematic falsehood. They preach it as if it were a maxim of general applicability for others to copy. But this it clearly can never be, for its success is dependent upon the opposite custom being widespread and universally accepted. If lying is universal no state-

ment will be effectively received and truth itself becomes a double bluff. Hitler has announced his belief in falsehood as a method of statesmanship in his own book, and gone so far as to express his conviction that the bigger the lie the better—the theory being that if it is big enough the liar will not be suspected of "having had the impudence to fabricate it."

History has given us no previous instance of a ruler of men who gave himself out as a liar beforehand. Napoleon knew that the value of a lie was in the inverse ratio to its frequency and, indeed, Machiavelli's Prince did not go beyond this. Clearly, the success of the policy depends on it being exceptional. It is parasitic upon the world background of morality and truth. There can be no more glaring instance of the particular completely losing its quality as soon as it is repeated and has become even partly general, while if absolutely generalized it becomes nonsense.

Whenever a collective policy has been adopted for the general good, it is nearly always possible for one member to profit by standing out or breaking away, provided the others do not change in consequence with a collapse in the whole policy. The Rubber Restriction scheme is a case in point. In many cartels or price fixation arrangements, some one member has been tempted to break loose and secure a larger volume of sales at a lower price. Whether this is socially salutary or not depends on the particular circumstances or reasons for the policy. But the point here is that the individual success is parasitic upon the general policy and cannot be extended to all. The success of particular businesses with a special sales policy, or wages policy—often advocated for general adoption—must be tested in this way.

Very wide and sincere claims are made in the field of ethics which, on analysis, are found to rest for their validity upon unlimited extensibility of qualities or conditions which are so far only known in practice in local and temporal settings. Even those who do not accept the whole orthodox Christian Gospel position endorse these universalities from Christ's teaching. All the problems of the world, not merely personal and spiritual but those of economic and international relations, are said to be soluble by the application of fundamental Christian principles, and it is not usually conceded that that application presents any remarkable difficulties or requires specially hard thinking. I have elsewhere examined the four fundamental Christian principles from this point of view.[1] The most far-reaching and revolutionary is by general consent the "brotherhood of man." This relationship, partly stated as a distinct one, and partly as inherent in the doctrine of the Fatherhood of God, is claimed to be one which can be interpreted for any conditions and for any age. It is suggested that

[1] *Christianity and Economics*, V.

it is timeless, and appealing to a fundamental element in Nature is clear and free from ambiguity. There is an underlying assumption that the complex of ideas suggested by the term is so well understood and inherent in it that it needs no further definition. It is, therefore, rarely if ever, defined. The relations existing between men under the brotherhood of man will be "brotherly relations," and everyone knows what they are. So long as the appeal is made to this principle in the abstract, and so long as everyone assumes that everyone else means the same by it, unanimity of purpose seems to be attained. The answer will be: "Well, it's something you can't define, but everyone knows quite well what it means, and that is enough for practical action."

But the anxious seeker after a new economic norm can well be pardoned if he asks for greater precision before he legislates. He knows what the economic relations between men will be under a régime of free competition and determined by free market prices: for example, that a spender of money in Britain can, at will, employ, or fail to employ, a producer of meat in Wales, New Zealand, the Argentine, and carries little responsibility for the result of his choice. He knows what the economic relation will be under a totalitarian régime, where central direction is prescribing who shall produce what and how much of it, and where the consumer takes what is available, and then if he is not satisfied brings what pressure he may be able upon the next stage of the plan. He knows what the economic relation is in a slave State. He knows—perhaps less certainly—what the relation is in a semi-collectivist State, where the market-price test and the statistical plan merge into each other. But what exactly will these relations be if they become "brotherly"?

They have not remained constant through history nor are they uniform everywhere at the present time. But no doubt there is a large general common area of behaviour which we can agree upon. First, we may suppose that there is, in practice, behaviour which is peculiar to brothers and different from that extended to non-brothers. Second, we may examine an absolute standard of behaviour such that anything less intimate or considerate would be "un-brotherly." Now in so far as the behaviour is distinctive, and we give a brother prior claims and more intimate attention compared with ordinary people, this aspect of brotherhood seems to break down when we generalize it. If *all* men are our brothers, any *preference* disappears, and the distinction in the two relationships vanishes. This difficulty has even been felt with friendship, which is generally held to be a less exacting test than brotherhood.

I have analysed the implied obligations between brothers towards each other, in prosperity, in distress, towards their parents and their families, their obligations in financial matters and in business, and

have shown that the "brother" complex tends to be either meaningless or impossible if it has no differential character, i.e. if there are not some who are not within the full relationship. It seems that the absolute content of brotherly relationship cannot be always clearly distinguished from the preferential or differential, which becomes impossible to preserve when *all* men are brothers. We are driven therefore to consider the position where any one of us is to treat all other men as his brothers, that is, give them the full content of the brotherly relation. But our actual brothers are few and known, whereas the men to be so treated are many, and most of them unknown and unknowable. The principle must therefore be: *in so far as we come into contact in the ordinary course of life with others, our relations with them must be of the brotherly standard.* This restatement presents two difficulties: first, "contact" is a question of degree, for I may have controllable contractual relations as a British exporter with a definite American importer, unknown to me personally, and it is incumbent upon me to make those relations as brotherly as if he were a known blood relation, and not merely not to be too sharp on the economic side, but to be really considerate of his personal circumstances. There comes a point, however, where the contact is too indirect or distant for me to be well enough informed to know whether he is being properly treated or not—the intervention of a middleman at Winnipeg between a Liverpool wheat importer and an Alberta farmer is a case in point.

I proceeded to give the important obstacles to the application of the principle generally: (*a*) cultural and class, (*b*) racial and biological, and (*c*) linguistic and ideological. The two classes of relationship, negative and positive, are crucial. In one I refrain from doing things I would not do to my brother; in the other I undertake to do for *any* man what I could or would do for my brother. But what I *might* be able to do with time, money, affection, and understanding for three brothers, it may be perfectly impossible to do for each of even the three hundred units with whom I have contact. In the extension of the principle it gets rapidly more tenuous or anaemic. Some of the same loss of quality, as unit is added to unit, comes to the doctrine of the "good neighbour."

The second difficulty is that the restatement makes our position purely passive—it does not say to the missionary "the natives are your brethren, and therefore there is a call." The scope of individual conduct which is affected by the principles of brotherhood, the good neighbour, and stewardship respectively is to a large extent common ground, although each may extend a little beyond the others at certain points. But inasmuch as the principles of brotherhood, and the good neighbour, tend to lose themselves on a wide extension, and dilute their distinctive character, save in their negative aspects,

my own view is that the idea of stewardship carries us further and with more definiteness into our economic relations.

The result of the analysis for my purpose then was not to belittle the value of these principles, but to deny that they supplied the simple solution to our great social problems involving extended time and space in this age. But my object in referring to them here is to emphasize the illegitimate extension, or fallacy of composition, and to give an illustration of relationship which, when extended, changes quality, and where we may not assume *ceteris paribus.*

Now we come to classes of case where the action of each makes the corresponding action of others easier or more difficult, and functionally affects the whole.

It is generally considered a prudent thing for the individual, especially in troubled times, to have "liquid" resources, so that he is ready to meet financial pressure and difficulties. A man may be very well off, but "tied up," and unable to face sudden calls without realizing physical assets on a difficult market. If his wealth is in a house it may be unsaleable at a particular moment, and certainly not saleable in small bits. If it is in a mortgage on someone else's property, it is a little more liquid, for he can call it in, after an interval. If it is on deposit account at his bank, he can secure any part of it at short notice; while if it is on current account, or money in a stocking, he is completely "liquid." Stocks and shares in businesses, if readily saleable, are liquid. But ownership of a real business is not liquid. Chairmen at company meetings and banks especially, take pride in their liquid position—they have enough quick assets to meet call liabilities. When things look bad, people make for still more liquidity. So it becomes a byword of prudence to be liquid. But as a matter of fact, the more people become liquid or add to the liquid position, the more illiquid becomes the economic position as a whole. The scale of industry has been so vast that it means the development of capital resources quite out of the range of any one individual or even a homogeneous group. Great stress is now laid upon impersonal ownership. Widespread liquidity and objectivity alter the whole character of the economic dynamic. As Berle and Pederson say:[1] "Stocks and bonds can be transferred with relatively little dislocation of the normal relationships between actual living men, and actual useful property. The owner of the stock or the bond may be in difficulties, but the concern can, and usually does, go right on, though its securities may be sold and even though the drop in the prices of these securities may be disastrously rapid. A claim, therefore, against stocks and bonds, while it reacts violently on investors, may over a short period leave the commercial structure relatively undisturbed. Compare this, for example, with the case of

[1] *The Modern Corporation and Private Property.*

a claim represented by a mortgage and an actual foreclosure . . . it appears to be a fact that the increase in the demand for liquidity almost of necessity weakens a civilization based on individualism and individual property. Plainly, the mechanism of liquidity has a tremendous effect on national wealth." In the U.S.A. it has been calculated that the proportion of liquid claims on national wealth was 15 per cent. in 1900 and 40 per cent. in 1930. It is difficult to exaggerate the effect upon a dynamic theory of economics of a much higher proportion of liquidity in the claims upon national wealth. In 1903 and 1907 the situation could be weathered and recovered by the forces of individual effort, and personal misery did not threaten the social fabric But in 1931 there was a real danger to the fabric; individuals were helpless and insistence on the State taking extraordinary measures was a consequence. "It may be questioned whether, if the percentage of so-called liquid claims became higher than 50 per cent., there is any real liquidity left and whether it is not all destroyed. . . . Liquid property is dangerous property. It will always seek that alliance either of things or of organization which will tend to preserve its quality."[1] This is a conspicuous recent illustration of the fact that the "good" of the individual cannot be multiplied indefinitely without changing the character of the "good" itself, and that if it is extended to the whole it disappears altogether. A world in which everyone is completely liquid, contains all potential sellers, and also no owners of real assets.

We come now to an important and quite modern type of the *ceteris paribus* fallacy. The influence of scientific approaches to generalization is gradually extending beyond those who actively and consciously employ them in their work. The knowledge that the distribution of quantitative variations in measureable magnitudes follows a regular pattern—either the "normal curve of error" or some more or less asymmetrical variation of it—throughout natural phenomena, is becoming more instinctive and widespread. Indeed, even qualitative differences (such as intellectual aptitudes, or degrees of "redness") can be ranged in order, and by the arbitrary assignment of numerical differences can be brought within the same statistical discipline, and made to yield even standard deviations and correlation co-efficients. The field of experimental psychology lies in methodology closely alongside physiology and other scientific fields where definite measurable quantities are the chief guides to causative relationships. But this mode of thought would be unimportant for our purpose if it were limited to the distribution of data free from the time or growth element, and dealt only with the length and breadth of leaves, fish scales—the size of things of like kind existing

[1] See my Finlay Lecture, "The Bearing of Recent Economic Experience on Economic Theory," *Jnl. Inst. of Bankers*, 1939, p. 15.

at the same moment of time and having no mutual interdependence. It is the fact that the *rate of growth*, through time, of all kinds of "populations," whether yeast, bacteria, whales, or human beings, seems to follow the same logistic curve, an expression of the same impersonal exponential and mathematical law, that is now so full of significance for social and philosophical thinking. For this "law" imposes conditions upon growth which, if not fatalistic or deterministic for the individual, seem certainly to be so for the mass in all its relationships with physical conditions. If it does not impose it prescribes. To anyone whose mind continually dwells upon the experimental results obtained in all fields of measurement, and has a constant picture of curves of varying "tilt," *but all inevitably sigmoid in shape*, it is impossible to indulge in facile extrapolation from known and existing facts into the future. The population has grown at such a rate, wealth per head has increased by such a percentage in the past two decades—what of the future? What are the conditions of extension? The one thing we can say positively is that every increment will be added *under new conditions*. It is idle to postulate *ceteris paribus*, and yet that is done every day in every direction. The question uppermost in the mind of the social philosopher must now be: "What is the position of this fact or item upon the logistic curve or record? Is it at the early stage when for additional items acceleration in "rate" of accumulation can be anticipated? Is it in mid-career when the rate is at its maximum, and every fresh advance will be in deceleration? Is it on the last and declining section of the curve, when for the future of the aggregate it is only old age and no advance is possible? Only when the point now reached is related to position on a logistic curve can prophecy or estimate about extension of numbers or the quality of their attributes be safely indulged. It will at once be urged: all this deterministic outlook is based upon the concept of a closed or fixed environment, such as the scientists employ in obtaining their curves, whereas man does not live in a closed world, he is continually bursting the bounds, discovering new forms of energy, new sources of food. Progress may thus still be more than a delusion and a dream. Malthus, without knowing it, made the same blunder, in a secular sense, as I have been postulating, for he did not foresee the immense new resources that would come in upon the "resources" side of the equation, and the iron law of wages broke upon the same rock. This is no doubt true, but it does not follow it will always be true and that we can perpetually boost the sigmoid curve at its maximum point so that it never flattens, or that we can wait as confident Micawbers for something to turn up, for new wonders to fall out of the scientist's bag. The fact remains that at any particular moment the environment in one or other of its main features *tends* to be a closed system, and the habit

of thinking induced by the inevitability of the logistic curve has a real practical value. The idea which is so characteristic of all our thinking on human questions, that because things have proceeded from point x to $x + 1$ in a certain way and in a certain time, they will also proceed from $x + 1$ to $x + 2$ in the same way and in the same time, presumes that all other things will remain equal. The logistic curve that is pervasive in natural time-processes declares that they will *not* remain equal. But it atones for this sentence in some degree by giving indications of the *extent* to which the current delusion will be erroneous. *Natura non facit saltum.* But to avoid dissolution and decay nature will make very big jumps indeed, or rather it would seem that man, under the pressure of necessity, rather than pass out, will become very inventive and find an escape. It is doubtful whether big scientific jumps really come because the existing logistic curve is beginning to run flat. Do we wait for our coal reserves to become nearly exhausted before petroleum is discovered, or radio activity developed? Scientific discovery bloweth when it listeth. Not entirely, however. Factors of human survival or satisfaction which are in process of exhaustion become "dearer" relatively to others—it "pays" scientific research to find less prodigal, more economic uses, or to probe nature to secure alternative ways round, new methods of achieving the same object. It is only the purest of pure science that does not ride the logistic curve.

I do not pretend that the inevitability of progress has ruled thought hitherto. It certainly did not do so in the "constant flux" of classical times. And the rise and fall of civilizations has been a recurring theme of modern thought, with its search for the essentials of survival. I am not here concerned with these secular speculations, but only with the vice of the underlying assumption that even in short period considerations other things remain equal.

No one would wish to draw analogies between growth phenomena in the physical world and conditions in the social and mental worlds too closely. Nevertheless, some of the findings in the one have suggestive points of analogy for the others—to be used "to taste" and carried as far as personal inclination may suggest. At any rate, they are useful exploring media and provoke awkward questions in the social sphere. Here are a few at random that appeal to me for reasons that will be obvious:

(1) History shows that unrestricted whaling with no limit to the fleet, and every technical resource, invariably results in the same curve of annual yield and ultimate abandonment of whaling grounds.[1] This is true despite other conditions being widely different. As demand for the product is not unlimited, international co-operation, faithfully observed, can establish an optimal equilibrium.

[1] *International Whaling Statistics*, II, Oslo, 1931. Also J. Hjort in *Essays in Population.*

(2) Johan Hjort, the Norwegian biologist, to whose researches the whaling industry owes so much—and for whose personal influence I am much indebted—has considered the problems of the "optimum catch" in whaling fields, and their regeneration. There is a subtle interaction between the curve of normal growth and the controllable curve of the annual human "attack" upon the population, which by its subtractions up to a point makes life and reproduction easier for those left, but beyond that point results in a net depletion.[1] With the slow rate of reproductivity of the whale, and the rapid application of technical improvements in the industry, it is quite easy for the total catch to exceed the optimum, and even because it is rising to be a sign of ultimate ruin.

(3) Theoretical or ideal growth, as, for example, in Malthus's geometrical ratio, does not take place under natural conditions or in any experimental conditions where the food supply is limited. Either the limits of space or access check expansion, or the waste products of the organism itself act as a poison and check growth. The ultimate flattening of the sigmoid curve, or the increasing retardation of growth is fully accounted for. The initial acceleration of growth is not so clearly understood.

(4) The organism may take time to get used to its environment and make the most of it, to "warm up," so to speak. (In bacterial cultures, on a transfer to another environment the initial slow period is not repeated and the growth curve does not have to begin all over again.)

(5) Mathematical statisticians can fit a curve to the sigmoid which *may* be a general formula of growth. These are especially apt for polycellular organisms and processes analogous to chemical autocatalysis.[2] They do not explain, but only describe, and we must be careful not to regard them as natural laws, but the exponential law covers more examples than any other. "An asymmetrical distribution, or skew frequency series, raises the question whether the mass is a homogeneous one or whether the series is composed of two or more different series."[3] The "overlay" of two different types either of which would, if isolated, yield normal curves alike in shape but to a different scale of magnitude, may be of immense significance in the study of social and racial mixtures. "If we combine several series of growth experiments with yeast cells we are liable to get a skew frequency distribution of the cells by birth number. If we try to characterize the growth of a country's population in the same way we must be prepared to face the same difficulty. The total population of a country is not a homogeneous mass. Causes which influence the growth of the industrial population need not exert the same influence upon the peasant population.[4]

(6) There is the highest scriptural authority for the analogy of *yeast* in the social and spiritual worlds. Under modern scientific methods the influence of leaven also gives us some clear leads. Yeast follows Liebig's law that growth stops because a nutrient substance necessary to yeast is exhausted in a constant environment.

[1] The mathematical conclusions may be found in his several works, but see especially *Essays in Population*, p. 123.

[2] See W. Palin Elderton, *Frequency Curves*.

[3] Ottestad, *A Mathematical Method for the Study of Growth* in *Essays on Population*, p. 47.

[4] Ottestad, *op. cit.*

In a constant environment and experimentally the concentration of this substance (Wort) diminishes to nil when growth ceases. The waste products promote growth in low concentration, but check it in higher concentrations. In the end there is such a high concentration that growth is inhibited. In some conditions growth ceases before the food is exhausted because of the pressure of waste products on the breakdown of the sugar. The relations between growth and appropriate food, and growth and poisoning are not easily resolved. With wort as the culture medium it was proved that ethyl alcohol in concentrations of 1–3 per cent. encouraged growth, and this agrees with what is known of the action of most poisons in low concentrations. "The explanation of this growth-promoting action may, perhaps, be that ethyl alcohol renders the plasm of the yeast all the more permeable by necessary nutrient substances, thus stimulating the metabolic processes." The problem of provocation or initial stimulus to action is recondite. The doctrine that a "few fleas are good for any dog" has a wider range of applicability than appears at first sight.

(7) The dynamics of growth are not understood merely by references to aggregates of like potentials. With yeast the *percentage* of fertile cells is highest when aggregate growth is most rapid, but the absolute number of fertile cells reaches its maximum at the point of greatest retardation of the growth. This suggests that a toxic influence is responsible for the fact that the cells multiply so slowly. Klem lays it down that the ratio of mortality to birth rates (in yeast cells) is a biological measure of the toxic character of the medium. Richards,[1] who studied "budding," says: "The number of cells budding at the time of most rapid growth of the population is 22 per cent. At the period of equilibrium growth (about 100 hours) this is only reduced to 19 per cent. The difference is hardly significant, and shows that the mature cells are able to resist the toxic changes in the environment and to continue to bud actively. The larger buds are selectively affected, and are apparently destroyed as soon as they are independent of the mother cell and before they are able to acquire resistance. Much later at 170 hours after seeding, budding practically ceases." The biological approach establishes the toxic character of the medium by the ratio between the mortality and birth rate of the yeast cells, but the chemical approach defines it by the ratio between the concentrations of alcohol and sugar left in the medium. The two results run parallel.

(8) Freedom of movement or access is significant. Yeast in a vessel or medium kept at rest, tends to "cake" at the bottom, and live in a concentration of its own waste products. Growth is thus at a rate quite different from a freely moving culture. When the cells are kept suspended in the culture medium, or kept in freely moving contact with all parts of its environment, the maximum growth (or turn of the curve) is reached about the same time, but is about 34 per cent. higher. This may be due to altering the concentration of increasing waste products, or the influence of oxygen from the air, it being a well known fact that yeast multiplies better when air is passing through it. In one set of experiments the number of cells per 0·01 mm. at the end of 96 hours' growth was 380 at rest, and 1,070 with circu-

[1] Changes in sizes of yeast cells during multiplication, *Bot. Gaz.*, vol. 86, p. 93.

lation, but with a current of hydrogen 110 at rest and 700 with circulation.[1] Social analogies come to mind in the field of opportunity, education, intermarriage in social classes, and democratization of leadership.

(9) Studies of the extent to which these laws apply are (*a*) biological and experimental, or (*b*) historical and statistical. Obviously those in the first class will choose for their work organisms which multiply quickly with several generations in a short period, and total populations which change rapidly. It is not surprising that the typical colony of bacteria is a favourite medium. In the second, records of population or yields over long periods, with all the statistical defects, are alone available. In the observations on bacteria, the count is taken on various technical lines, and it is easy to vary the conditions of food, temperature, light and other factors on controlled lines. A typical case gave the following daily growth in area in centimetres:

0·24 2·54 10·75 22·17 11·20 1·9.[2]

These results may be plotted in three ways: (*a*) directly they give the ogival normal curve of error, (*b*) aggregated for total area at any time, they give the sigmoid, and (3) the area each day divided by the area of the previous day, is a falling concave curve. A considerable addition of nitrogenous salts may cause an enormously increased expansion, but does little to alter the time factor, when the change in direction begins to become effective.

Hopes run high that a law that lies behind the growth of individuals and populations throughout nature, and has its analogies in chemical processes, may emerge from the empirical and provide us with ultimate natural secrets. At any rate, the logistic curve provides a standing warning, and a mode of thought.

In natural science the tendency is to devote more and more attention to crowd behaviour and less to individual. "It is scarcely an exaggeration to say that almost all the known scientific laws relating to the long period development of systems are secondary or 'crowd' laws." "The phenomena to which crowding has given rise do not appear to have been regarded by economists as worthy of study in themselves."[3]

Some people think that the suggestion that the group has different characteristics from the individual is either false or pessimistic. But it is sufficiently obvious. What we do *not* know experimentally, or by inference, is the *difference* in the *individual* experience according to its position or stage in the whole of which it is a part. We do not know whether the individual bacterial cell in the population of the fifth day has to work harder or longer or feels more miserable in its conditions than its progenitor of the second day did. We do not know whether a particular average whale in the early life of the

[1] Wileminsky, 1929, *Biologie der Hefe in Strömenden Nährböden.*

[2] H. G. Thornton, quoted by A. J. Lotka, *Elements of Physical Biology*, 1925.

[3] Glenday, "Long Period Economic Trends," *Jnl. of Royal Stat. Soc.*, 1938, p. 318.

field leads a *different* life from his successor in the decline. In these respects alone the transition of thought to the social field must be watched. But when we add that the presumption is all against either the cell or the whale being self conscious, and *able to strive to alter its environment*, the gap to be bridged in the two fields of thought is vital.

Nevertheless, the two sides of the gap are akin. All group statistics rest fundamentally on population statistics, however much they may be split up or specialized. "Try to think of financial statistics or marketing statistics or social statistics, or any other sort you please, completely divorced from and with absolutely no knowledge whatever of concurrent population statistics, and you will see at once that in the absence of a bond with statistics of population, the speciality would be instantly sterilized and rendered devoid of any real meaning or significance.[1]

This is not the place to develop the doctrines surrounding the logistic curve in population. The optimum rate of exploitation of a food supply, the growth of industries, the life of particular businesses, the production of gold, the distribution of wealth, and many other objective aspects have been illustrated.[2] But it is with us in practice daily.

The growth of population in the United States has been extrapolated from an analysis of statistics up to the present time (with some reference to experimental studies of the movements of population). It is computed to reach 200 millions by the year 2060, when the curve will run level (equilibrium precluding further growth) —and the "turn" of the curve is now past. This is not a dogmatic prophecy, but only a norm, which every scientific extension or social change of habit may modify. Experience shows, however, that it is pretty "tough" and not easily disturbed for long.

Of Canada, it has been said: "though no simple curve fits our growth alone, a logistic *does* fit a compound of growth and area. The *Drosophila Melanogaster* bottle was closed: the Canadian bottle is an expanding one. The maritime provinces are in contrast: no new natural resources have been developed, no territory has been added, nor have they experienced much stimulus of industrialization. For Nova Scotia the trend of population from the earliest times forms a logistic, with a slowing up above the point of inflection concurrently with movements into Western Canada and the United States. These episodes over, the curve is returning to form, pending a new cycle."[3]

Dr. Enid Charles is frankly sceptical about the application of the logistic hypothesis because of the numerous interjected factors that can upset it.

[1] Raymond Pearl, *Am. Stat. Assocn. Jnl.*, vol. 33, II, p. 277.
[2] Vide Glenday, *Journal of the Royal Statistical Society*, 1938.
[3] R. H. Coats, *Science and Society*.

The question has to be settled whether "the resemblance between Pearl's curve for the growth of populations of *Drosophila* and Verhulst's curve for the growth of human populations is more than a mathematical coincidence. . . . The logistic hypothesis can only rank among the laws of natural science if it helps us to adapt our economic arrangements to the probable future size of the population or to alter them so as to change the course of population growth."[1]

* * * * *

I do not put it higher than this for the social philosopher: if he neglects the study of these natural phenomena he ignores a source of promptings and warnings of great value in the remoulding of the world to his heart's desire.

My treatment of the dangers of the assumption of *ceteris paribus* may seem discursive. But this is because they are so pervasive, and enter every field of thought. No doubt it is indispensable to isolate some characteristic under consideration, and to ignore the surrounding conditions, for the purpose of that examination. But it is a truncation of reality, and only to be justified if it is succeeded by a corresponding examination of the factors ignored in the first process—"thinking in terms of interdependence" as Mannheim calls it—and finally by a reconciliation of the results. For to accept the first result as practically applicable truth in face of the inevitable interactions of all change, is to evade the major problem of thought.

[1] Pp. 139–154, Dr. Enid Charles, *The Twilight of Parenthood.*

KANT'S CONCEPT OF APPEARANCE—I

D. R. COUSIN, B.A.

§ 1. *The problem*

The following discussion arises out of reflection upon a number of related topics. One of these is the problem of perception, and in particular of perceptual illusion. Another is the use which has been made, e.g. by Bradley, of the distinction between appearance and reality as a guiding principle of metaphysical inquiry. But the immediate occasion of the present inquiry is the attempt to discover what Kant in particular has to say upon these and similar problems. It is for this reason that I have given the paper its title, and not because I wish to pose as an expert in Kantian scholarship. What contribution I can make to Kantian studies is only that of the outsider whose questions may perhaps suggest to the experts lines of inquiry which their very familiarity with Kant's ways of expressing himself may have led them to overlook. But the aim of the paper is not so much to discover what Kant meant as to formulate a particular view which may have been Kant's in such a way that we can judge whether it is true or not. The decision on that point, however, falls outside the scope of the present discussion.

There is a further set of reflections which makes me think that this inquiry may be useful. Kant does as a matter of fact use the term "appearance" in stating what is perhaps the foundation of his view, and it is obvious that if we are to understand his view as a whole we must understand what he means when he speaks of appearing or of appearances. Now he might have coined a term specially for his own purposes, and he might on the other hand have adapted a term from common speech, making the nature of his adaptation plain by means of an explicit definition. But it is clear that here at least he has not done the first of these things, and I am not aware of his having done the second. On the contrary there are even passages where he appeals to the "general concept of appearance" in support of some of his views in such a way as to imply that the meaning of the terms he uses is fixed independently of their employment in the statement of his own philosophy.[1] Now it is obvious that these terms have a meaning in ordinary language independent of Kant's philosophy, and the inference is natural that the meaning with which Kant uses them is not independent of that

[1] Cf. *Critique of Pure Reason*, A 251–2, B xxvi–vii. All page references preceded by A or B are to this work.

ordinary meaning. This being so, it is obvious that some study of the ordinary meaning of the terms is an indispensable preliminary to a full understanding of Kant's meaning.

The only elaborate study of the ordinary notion of appearance in relation to Kant's philosophy with which I am acquainted is that of Professor Prichard.[1] I am deeply indebted to this study for help in connection with the present problem, and it is a pleasure to acknowledge the more personal indebtedness of a pupil. But I think that later studies have thrown light on the problem which leads to views which in some respects differ from those which Mr. Prichard held when he wrote this book. (It was published in 1909.) I think, therefore, that there is still room for a re-examination of the question.

Further, it appears to me that when we do so examine the common notion of appearance, we find that it is not precisely the same as the notion that Kant is using. The necessity for such an inquiry is thereby established. For there is an obvious danger that we shall mistakenly attribute to Kant implications of the common use of the terms which are foreign to his intention, and this danger can only be guarded against if we bring these implications clearly before our minds. Further, if there is this difference, we cannot assume that we know what Kant's meaning is, as we perhaps could if it were open to us to assume that his meaning is precisely that of the terms in their ordinary interpretation. Some investigation of his precise meaning is therefore forced upon us by the failure of our original inquiry.

My discussion refers directly to the meanings of certain words belonging to the English language. I believe that what I say applies in the main to the corresponding German words. But even if it does not, the necessity of some such inquiry to English-speaking students of Kant is unaffected; for it is in English, for the most part, that we must re-think his thoughts, and in order to do this we need to understand the implications of the language that is natural to us.

In what follows, § 2 is devoted to quasi-grammatical considerations directed to removing a certain possibility of misunderstanding due to the ambiguity with which the term "appearance," like other verbal nouns, refers to the situation to which it is applied. In § 3 I draw attention to a further ambiguity arising from the fact that the term "appear(ance)," if I may in this way avoid tiresome repetition, refers sometimes to the one and sometimes to the other of two different situations, and try to show that the meaning which it has in application to the first of these situations is inappropriate to the interpretation of Kant. The other side of this ambiguity is discussed in § 4, and is rejected for different but related reasons. Concluding

[1] *Kant's Theory of Knowledge*, chap. iv.

from this that Kant's use of the terms is not in accordance with ordinary convention, I turn in § 5 to investigate the implications of his technical use of the terms. Using as a clue certain facts which emerge in the course of §§ 3 and 4, I discuss illusion (§ 6) and mind-dependence (§ 7) before turning in § 8 to inquire why Kant uses terms which I think have proved to be misleading. Finally, in § 9 I attempt, in what is I am afraid not wholly untechnical language, to formulate what seems to me an account of Kant's meaning which is sufficiently definite to make possible a decision on the two questions (1) whether it is in fact what Kant meant, and (2) whether if so it is true or false. I am well aware that the first as well as the second of these questions is an open one. But it is one which I must leave to the experts.

§ 2. *The referential distinction*

The distinction which I wish to draw in this section may be said to concern the relation of the noun "appearance" to the situation described by the verb "to appear," and more generally the relation of any verbal noun to the situation described by the verb to which it is related. I do not suggest that my treatment is exhaustive, but I hope it is sufficient to indicate a sort of distinction which is highly relevant to our present question.

When a verb normally occurs in a sentence which states that a certain event takes place, the related verbal noun may normally occur in one or the other of at least two distinct ways. It may name *the event* which the verb helps to narrate, or it may name *one of the constituents* of the event with reference to its part in that event. Thus the noun "presentation" names the event which is narrated in the sentence "The Committee presented the retiring Chairman with a gilt clock," while the noun "present" names one of the constituents of this event, viz. the clock, with reference to the fact that the clock is not merely the Chairman's clock but is given to him by the Committee. We may perhaps adapt some of the terminology of Latin grammar in order to express this logical distinction, and call the first use of the verbal noun the "gerundive" use and the second the "participial" use.

Now it not infrequently happens that these two distinct uses are served by what is phonetically and alphabetically the same word. "Work," for instance, may name the actual expenditure of energy or it may name the product of that expenditure; in the case of a musical composition it is in the first sense that *the work* fatigues the composer but in the second sense that *the work* delights the audience. And where this is the case it is obvious that great care must be taken in either the exposition or the interpretation of a philosophical

view to focus clearly before our minds the situation and the particular way in which the terms employed may refer to it.

In my opinion the noun "appearance" is clearly subject to this type of ambiguity, though perhaps not without reference to the objective distinctions which will be pointed out in the next section. We must therefore consider, in interpreting Kant's statements, whether the term "appearance" occurs in them in the gerundive or the participial use.

There are certain passages in which the gerundive use of the noun might seem not inappropriate. When Kant speaks, e.g., in B xxvii of "the absurd conclusion that there can be appearance without anything that appears," this is a description which would apply very well if the word "appearance" were here to be understood in the gerundive sense. For it would obviously be impossible that the event of something's appearing should take place without there being something that appeared.

But there are other considerations which make it seem advisable to dismiss altogether the gerundive noun from Kantian contexts. For Kant constantly says that spatial or other similar predicates characterize appearances or things as they appear though not things as they are in themselves. He must therefore be thinking of appearances as being of such a sort that they can intelligibly be said to have predicates of this sort, that is, as being particulars or logical subjects. But what is meant by a gerundive noun is not of this sort; it is an event into which a particular or logical subject enters as a constituent, not itself a particular or logical subject. It follows that the noun "appearance" is not used by him gerundively in such contexts but participially.

And indeed the same conclusion follows from the equivalence of the noun "appearance" with the phrase "things as they appear." For this phrase indicates that Kant is thinking of a thing, i.e. of a particular or logical subject, though perhaps from some particular point of view, and not of some event of which this thing is a constituent. But to say this is simply to say in other words that he is using the term participially and not gerundively.

In what follows, therefore, I shall assume that the noun "appearance" is used by Kant in all important contexts as the name for something considered in relation to some event of which it is a constituent, that is, participially.

§ 3. *Objective distinctions*

In the present section I wish to draw attention to certain facts about the use of the term "appear(ance)" in ordinary non-philosophical usage. It is necessary to make this clear at the outset,

because as Professor Laird has pointed out in an article in *Mind*[1] the use of the term by philosophers is often different from the current use in nonphilosophical contexts. The reason for this will be discussed at some length below (§ 5).

In ordinary English, then (and I believe that what I am about to say holds good also of the corresponding German words), the words "appear" and "appearance" are applied sometimes to the one and sometimes to the other of two rather different situations. That there are these two different uses of the terms is clear from an inspection of the dictionary, and also from the fact that Professor Prichard, in his chapter on "Phenomena and Things in Themselves," based his criticism of Kant wholly on the implications of the one, while Professor Laird, in the article above referred to, confines himself with almost equal single-mindedness to the other.

What then are these two different uses of the term "appear(ance)"? The difference may perhaps be most clearly indicated by pointing out that in reference to one of the situations commonly referred to by means of this term we have, besides the verb "to appear," the synonymous verb "to seem." This verb covers in a general way the situations variously described by "This tie looks purple," "That stick looks bent," "The water feels warm to-day," "My porridge tastes sour," "That thunder-clap sounded very near," and so on. To the other sort of situation the verb "to appear" is uniquely appropriate, though it can be paraphrased by the phrase "to make an appearance," and the fact that a thing, T, appears to a mind, M, can be described by saying that T is revealed to M, or (as Mr. Laird points out) from the opposite point of view by saying that M is aware of T. (The proposition that M is aware of T may be called the relational converse of the proposition that T appears—in this sense—to M.)

It will be convenient, in order to avoid confusion, to confine the term "to appear," where it occurs in this discussion, to the second of these uses, in which its relational converse is "to be aware of" (I shall write it "Appear"), and to indicate the other sort of situation by means of the verb "to seem." This device, unfortunately, is not available in the case of the noun "appearance." For this does duty both for the verb "to Appear" and for the verb "to seem," which has no noun of its own in current use. This fact is, I suspect, a source of frequent confusions of thought. In order to avoid such confusions in our present study, I propose to adopt the convention of writing "Appearance" and "appearance (seem)" where the context leaves room for doubt about which use is intended.

In the remainder of this section I shall briefly discuss the question whether the verb "to appear" and its participial noun "appearance"

[1] *Things and Appearances*, vol. xlvi. pp. 302 ff.

are used by Kant in the sense which I have distinguished above by writing it "Appear(ance)." The discussion of the sense in which these words are equivalent to the verb "to seem" and its participial noun may be reserved for discussion in the following section.

It seems to me that Kant cannot be using the term in the way in which "Appear(ance)" is normally used. For his use of it implies an antithesis which so far as I can see is quite foreign to the ordinary use. This antithesis between appearances and things in themselves, or between things as they appear to us and things as they are in themselves, is of the essence of Kant's position, and is clearly a part of the meaning of the term "appear(ance)" as he uses it.[1] But I cannot see that any similar antithesis is suggested by the verb "to Appear." A thing may appear to us, or again of course it may disappear. But we do not think therefore of two different things or states of a thing. It simply does not occur to us that a thing could either acquire or lose any of its characteristics merely by appearing to us.

Another reason why this interpretation of Kant's terms seems to me inadmissible is a difficulty in finding a corresponding use for the verbal noun. The gerundive noun, as we have seen, is inappropriate to the statement of Kant's doctrine because it refers to an event or situation of a certain kind whereas Kant's doctrine requires the term "appearance" to stand for a *particular*, i.e. his doctrine requires a participial noun. But it does not seem to me that the verb "to Appear" has a participial noun. The noun "Appearance," I should say, is always gerundive: if Gideon was surprised at the "Appearance" of the angel of the Lord—I do not assert that he was—what surprised him was the event which was the angel's appearing to him, not some constituent of that event.

I conclude, then, that this ordinary sense of the term, which I have distinguished by writing it "Appear(ance)," is inappropriate to the statement of Kant's doctrine. The term used by Kant must therefore be either "appear(ance) (seem)" or some technical use of the term calling for further investigation. (I ignore, for reasons which will appear later, the possibility that Kant is using the terms in some ordinary sense which has escaped my notice.)

But it will be as well to add, before leaving this topic, a caution about the precise interpretation of the result at which we have arrived. What has been shown is that something is involved in Kant's use of the words which is not involved in their ordinary use. It does not follow that the two uses have nothing in common. In particular, it does not follow that the situation which Kant has in mind when he speaks of things as they appear is different from the situation which an ordinary man has in mind when he speaks of the

[1] Cf. A 251–2, B xxvi–vii.

cathedral Appearing out of the mist. What does follow is that Kant, if he thinks of this situation, thinks of it in a different way from the ordinary man. And this is hardly surprising, since Kant thinks reflectively about situations of this type in general, while the ordinary man thinks unreflectively about, e.g., the cathedral. The situation referred to by the ordinary use of the verb "to Appear" should therefore not be dismissed from our minds. We shall refer to it again when we come to discuss Kant's technical terminology on its own merits.

§ 4. *The verb "to seem"*

Turning now to that sense of the term "appear(ance)" which I propose to represent by the use of the verb "to seem," we may inquire whether Kant's meaning can be correctly understood if we take him to refer to the sort of situation in which this term is normally applied.

It is clear to begin with that this term does not suffer from the defect which led us to reject the attempt to understand Kant's words in the sense of "Appear(ance)." For it certainly belongs to the normal use of this term that an appearance, or thing as it seems to be, is contrasted with something else, the thing as it really is. It is worth noting that Kant does not usually contrast appearances with reality, or things as they really are; he contrasts appearances, or things as they appear, with things in themselves, or things as they are in themselves. Of course, this might be no more than an odd way of expressing the antithesis between appearance and reality. But I shall try to show later (cf. Part II in next issue) that it is not. At present, however, the point to which I wish to draw attention is simply the fact that in its ordinary use the verb "to seem" and the noun "appearance (seem)" do imply a contrast with some other term. Hence so far as this quasi-grammatical aspect of their use is concerned they are not ill-adapted to the expression of a view in which an antithesis of some sort is an essential element.

But when we come to consider what the use of these terms implies with regard to the nature of the situation to which they are applied we find a difficulty. For if we say that a certain predicate applies only to appearances, or only to things as they seem, we imply that things only seem to have that predicate. And that means, as Mr. Prichard pointed out,[1] that the predicate in question is is illusory. If therefore we understand Kant in this way we inevitably ascribe to him the view that the predicates which he is discussing (i.e. spatial and temporal predicates and *a fortiori* what are called secondary qualities, colour, taste, smell, and so on) are illusions.

[1] *Op. cit.*, p. 73.

Now Kant was aware of the possibility that he might be understood in this way, and explicitly rejected this interpretation of his view. We must not perhaps exclude *a priori* the hypothesis that he was merely attempting to evade a well-founded objection which would have been fatal to his whole philosophy. But it is clear that this is an hypothesis which ought not to be accepted except as a last resort. Kant might indeed fail to see an implication of his doctrine; but we must assume that if he expressly considers and rejects an interpretation of his view it is because he understands his own doctrine and the objector does not. I shall assume, then, that the sense we are discussing is not the sense in which Kant uses the term "appear(ance)."

If this is right, neither of the two senses of the term commonly found in the language of ordinary life is the sense in which Kant uses the term in stating his position. Now there may be other senses in which the term is ordinarily employed, and if so it is of course possible that one of these is the one in which Kant is using his terms. But I cannot at present think what such senses might be, and I feel pretty sure that if there are any, reasons could be given to show that they are not the senses intended by Kant. The general principles on which I should argue will appear in the following sections. I shall assume, therefore, that Kant is not using his terms in an ordinary sense at all, but in some technical sense required by the character of his philosophical position. The remainder of this study will be concerned with an attempt to discover and reformulate Kant's meaning.

Before leaving this section I will again refer to the respect in which "appear(ance) (seem)" offered a not unplausible interpretation of Kant's meaning. Its plausibility lay in the antithesis which it suggests between the thing as it appears to be and the thing as it really is or is in itself; its unsatisfactoriness lay in the misleading suggestion which it conveys of illusion. The case of "Appear(ance)" was different; here it was the *absence* of this suggested antithesis which made the term inappropriate, while for all that we could tell the situation referred to might very well be what Kant had in mind. It is at least conceivable, therefore, that we may find in these facts a clue to Kant's real meaning. The two ordinary senses are each of them defective as instruments for the formulation of Kant's thought; may not their defects be complementary?

§ 5. *"Appear(ance) (technical)"*

We have seen that neither of the two normal senses of the term "appear(ance)" suits Kant's doctrine. It would be surprising if they did; for Kant's doctrine arises out of a reflection upon the cognitive

process, and the ordinary men in the service of whose ordinary purposes ordinary language has been developed do not ordinarily reflect upon the cognitive process.

We have now, accordingly, to inquire what Kant did mean. We may assume that his language is technical, i.e. that his terms are used in senses different from the ordinary ones, and perhaps more precisely. We shall not, however, expect the technical meanings of his terms to be wholly independent of their normal ones, for a reason which can perhaps best be explained by a brief consideration of the sensum theory. The theory is discussed here for illustration only, and without regard to its completeness or tenability.

The sensum theory, then, is an example of philosophic analysis. And philosophic analysis is commonly carried on in ordinary language, or rather in a language derived from ordinary language by a process which Professor Moore has taught us to associate with the name of Pickwick. The distinguishing characteristic of the Pickwickian language, if I understand it correctly, may be illustrated in application to the sensum theory as follows. The point of this theory is that it involves the recognition (or, if you prefer a hostile description, the postulation) of entities of a type which are utterly overlooked by plain men, and for which therefore there are literally no strictly appropriate words in ordinary language. The situation which is described in ordinary language simply as seeing a table is, according to philosophers who uphold the sensum theory, actually much more complicated than it seems; and when we reflect upon it we become aware of certain entities of a sort with which we are unfamiliar, but which have nevertheless definite and describable characters. Now if these entities were *wholly* unfamiliar, and if their characters were as different from those with which we are familiar in the objects of common sense as a colour is different from a sound, there would, I suppose, be nothing for it but to invent a wholly new set of symbols for the special purpose of describing these entities. But in fact the new entities are not wholly unfamiliar, and to invent a wholly new language for their description would be in a certain way misleading. This is because of the part which these entities, the sensa, play in the cognitive situation as these philosophers conceive it. For the odd thing is that if they are right the ordinary characters, colours, sounds, tastes, smells, sizes and so on, which distinguish the objects with which we are familiar from one another are connected with the characters of the newly discovered sensa. To put it crudely, what we mean when we say that the apple is red is that it has a certain relation to a sensum of a certain character. And what we mean when we say that this other apple is green is that *it* has the same relation to a sensum of a different character. Thus the *difference* between red and green, as characters of the objects of everyday

thought and language, depends upon a difference in the characters of the sensa. This makes it possible and advisable to use for the description of the characters of sensa the very same words which are in use to name the characters of the objects of ordinary consciousness. But since, as used in ordinary language, these words carry certain implications connected with the permanence and publicity which we attribute to tables and chairs but deny to sensa, it follows that these words "red," "green," etc., are not used in precisely the same sense in application to sensa and in application to the objects of ordinary consciousness. In application to sensa they are used in a Pickwickian sense.

We can now, I think, see why the terms examined in §§ 3 and 4 were not appropriate to the statement of Kant's position. It is because they are terms belonging to common language and therefore unsuited in their natural senses to the exposition of a philosophic analysis of the very situations to which they refer in an unphilosophic way. Since Kant's reflection has led him to recognize in the cognitive situation features which are not recognized by ordinary consciousness, the terms which he uses in reference to these features necessarily carry implications which are foreign to the normal use of language. It is necessary therefore to raise explicitly the question what precisely are the implications of these terms in his use of them. But we may expect to find in the normal use of the terms in ordinary language at least a clue to their meaning in Kant's philosophy.

§ 6. *Illusion*

Not much need be said at this point about the term "Appear(ance)." In its ordinary use it refers to a certain situation without carrying important implications about the nature of that situation. This is, I believe, the situation which Kant has in mind, and we shall return to his account of it later (§ 9). In the meantime I propose to investigate the notion of illusion.

It was suggested above (§ 4) that the antithesis implied by the term "appear(ance) (seem)" may have influenced Kant's choice of the term, but that the implications of illusion are not a part of the meaning of the term as he uses it. If we are to understand him, it is necessary to understand the nature of illusion and why it is inappropriate to use a term suggesting its presence in formulating Kant's view. In the course of our study we shall encounter a proposed definition of illusion which is, I believe, erroneous as a definition of illusion, but which has on the other hand a great deal (as it seems to me) to do with the doctrine which Kant is trying to express.

What then is involved in the situation to which the term "appear(ance) (seem)" is applied? More definitely, what is implied in the

notion of illusion? What is the nature of the antithesis which it involves, and how does this differ from that to which Kant wishes to draw attention?

An answer is suggested by Mr. Prichard's argument on pages 72 and 73. He there assumes that when Kant contrasts appearances with things in themselves he is contrasting appearance with reality. This suggests that the illusory is that which depends on the mind of some percipient, while the real with which it is contrasted is a thing which is what it is whether it is perceived or not.

This seems to be in principle Kant's own account of the matter, though he draws a distinction between what depends on the special constitution (and the special situation) of particular percipients and what depends on the constitution of human percipients as such.[1] And it is a very common account of the matter among philosophers, and probably commends itself to most people when they have for the first time been brought to see the problem and the need for some theory of the distinction between appearance and reality. But I do not think it is so likely to be right as a different account of the matter which has been suggested by more recent work on the subject. We shall consider this account in a moment. Meantime, what are the objections to explaining the distinction between appearance and reality by reference to what does or does not depend on the mind of the percipient?

A first step in the criticism of this account may be taken by noticing some consequences which follow from it. A thing will normally only be said to *seem* bent or purple or sweet if bent or purple or sweet is the sort of thing it might actually *be* whether perceived or not, i.e. if it is really bent or straight, either purple or green or yellow or some other hue, either sweet or sour or bitter. And we commonly suppose that there are some conditions under which *at least some* percipients would perceive the thing just as it is, i.e. as having just those qualities which it has in itself and whether anyone perceives it or not. Now this gives rise, on further reflection, to certain difficulties some of which Mr. Prichard pointed out.

In the first place, with regard to what are commonly called secondary qualities, he points out (p. 86) that, with the exception of colour—and I think that even this exception disappears when we think the matter out—all the secondary qualities unquestionably do depend on the percipient. (The exact nature of this dependence does not matter. In particular, we need not inquire whether these qualities depend on the percipient's mind or on his body; in either case they are not qualities which things have in themselves and whether anyone is perceiving them or not.) It follows, Mr. Prichard holds, that it is incorrect to say that a thing "appears" to be sweet or

[1] A 45 = B 62–3.

even blue. We must say that it produces such and such sensations in us when we perceive it (p. 86). But if the term appear(ance) is inapplicable to secondary qualities, that certainly does not mean that they are what things really are in themselves. Rather, we must say that the distinction between appearance and reality is inapplicable as a whole where these qualities are concerned.

Now this conclusion seems to me valid but certainly false. We do admit the distinction between the real colour of a tie and the colour which it appears to have in artificial light. And I cannot see why we should not apply precisely the same distinction by saying, e.g., "That lump of sugar is really sweet; it only appears bitter or tasteless to you because you have been sucking saccharine." The present point is not concerned with the particular conditions under which these illusions arise; it is the simpler point that these situations do occur, and are properly described as illusory.

It is clear that we cannot both maintain that the distinction between reality and appearance or illusion is the distinction between what is not and what is dependent on the mind and at the same time admit that the distinction between reality and appearance can be applied to the secondary qualities. One or other of these propositions must be abandoned. The question is, which one? Perhaps the answer to this question will become evident if we acquire a clear understanding of the distinction which we apply to secondary qualities, and also of the "dependence on the mind" in terms of which philosophers define illusion.

(1) In the case of secondary qualities, let us agree that they are in some sense dependent on conditions other than the intrinsic nature of the thing which they characterize, conditions which may be found in the mind or body of a percipient, but which are also to be found in the relation of the thing characterized to other things, to the water in which the stick looks bent, or the coloured light in the hosier's shop. If this were so, we could still draw a distinction between normal or usual and abnormal or unusual conditions. Or by a more complicated process of comparing the qualities manifested as the conditions of perception are continuously varied we might determine for any given object certain "standard" qualities, by contrast with which all other qualities of the same kind (i.e. all colours but the standard colour, all tastes but the standard taste, and so on) might be called abnormal.[1]

Is this the distinction which we are trying to understand? Is a mere appearance or illusory secondary quality a quality which is unusual, or differs from the standard quality of the same kind? It does not seem that this can be all that is meant by calling illusory the colour which I perceive when I look at a tie in the half-darkness

[1] On all this, cf. Price, *Perception*, pp. 209 ff.

of the shop. I should not speak of illusion unless I held that there was some *mistake*, that I had been *deceived* in thinking that the tie is purple. Now what is the mistake involved here? Clearly it is the mistake of thinking that the tie is purple *always or usually or under the conditions in which I am more particularly interested*. This draws attention to the fact that the state of mind that a man is in when he is subject to an illusion is not merely one in which he contemplates the qualities of an object presented to him in perception. It is one in which he entertains some belief about the qualities of the object. If this is a false belief, we say that the man is under an illusion or is deceived by the appearance of the object; if it is a true belief, we say that the quality which he believes the object to have is its *real* quality.[1] It is the presence of this belief or judgment, or to use the technical term this proposition, which makes the distinction between appearance and reality applicable in the case of secondary qualities. Nor does there seem to be any difficulty in admitting the same account to apply in the case of primary qualities. If the stick appears bent, it is not merely because bentness is actually manifested in what I see when I look at a stick half in water, though not in what I see when I look at the same stick wholly in air. It is because while looking at the stick partly in water I entertain the proposition that bentness would be manifested in what I should see if I looked at it wholly in air that I call the experience illusory.

At this point it is necessary to add a qualification which applies to the account of illusion in respect of both primary and secondary qualities. We were led to recognize that illusion, and also non-illusory perception, involves the entertaining of a proposition or belief by noticing the fact that illusion is concerned in some way with deception or mistake. But it may be objected that an illusion may persist even when it has been detected: the stick still looks bent, although I discount this appearance and fully believe it to be straight; the tie still looks purple by the light of the lamp, although I correctly believe it to be "really" blue. Thus we seem to have here a state of mind which involves illusion and yet which involves a true and not a false belief. This objection is right in what it affirms, wrong in what it denies; and we can meet it by formulating our account more carefully. It is true that there can be illusion along with true belief about the object. But if we reflect we see that it is possible to entertain, though not to believe, contradictory propositions at the same time. Perceptual experience of this type is illusory, although the percipient is not deceived, because he entertains as well as the true proposition which he accepts a false proposition which he rejects

[1] With this account of illusion cf. Price, *Perception*, pp. 27, 63; Russell, *Mysticism and Logic*, pp. 174 ff.

but which is elicited by some feature of the situation. We can have before our minds more propositions than one, and it is not necessary, in order to entertain a proposition, actually to believe it. Our answer to the objection, then, is that the false proposition upon whose presence to the mind we based our account of illusion really must be and actually is entertained in all cases. Where we are deceived this false proposition (that the stick is bent, that the tie is purple) is also believed; where we are not deceived it is rejected, but nevertheless is present in the mind, along with the proposition which we believe (that the stick is straight, the tie blue), as something for which there is *evidence* but which is nevertheless false. About the evidence for this proposition I shall say more later (cf. Part II in next issue).

(2) Further light is thrown on our question about the definition of illusion by considering more closely the meaning of the phrase "dependent on the mind." What kind of dependence is intended, and what view of the mind is implied, by those who speak of the illusory as what is dependent on the mind?

One answer is suggested by reflection on Mr. Prichard's refusal to apply the distinction between appearance and reality to secondary qualities. Mr. Prichard did not as a matter of fact make very much of the reasons which lead philosophers to hold that none of these are independent qualities of objects; but his remark (p. 86) that we ought rather to say that bodies produce such and such sensations in us shows, I think, the line of thought plainly enough. The argument arises out of the physico-physiological theory of the *causation* of perception, and what is being said is that secondary qualities, colours, tastes, smells, etc., are *causally* dependent upon the mind of the percipient. Now it is worth while to point out that many of the arguments which are commonly taken by the unwary to prove that these qualities are causally dependent on the mind of the percipient really prove no such thing; they prove that these qualities are dependent on the *body* of the percipient (his sense organs, nerve fibres, and cerebral cortex) and also upon other bodies and material processes, such as the propagation of light and the various refracting media through which it passes. I do not wish to exclude the possibility that the causal dependence alleged may be in part on the mind. All that I wish to do is to show that we must not imagine that we have solved our problem by introducing the notion of a causal dependence on the mind without a very careful examination of what we mean by the "mind" in this connection.

Now it may be defensible to employ the word "mind" to mean the bodily organism *qua* sentient or perhaps even *qua* percipient, and it may be possible to show that there is some causal dependence of secondary qualities upon the mind so understood. But I am going

to suggest that what has led to this way of speaking is in the main a confusion between a causal dependence which has been shown to exist, but which relates the secondary qualities in the main to certain *material* structures and processes, and a relation which really is a relation to the mind in a quite strict sense but which is not causal. About the causal dependence on material structures and processes I do not propose to say more at present. (A full treatment of perception would of course require some discussion of what could be meant by saying that certain *qualities* are causally dependent on material structures and processes. Qualities *of what?*) The main point to which I wish to draw attention here concerns the mind.

What is the mind, strictly considered? It is to be defined, presumably, by its characteristic activities. And of these the most characteristic is thought, the propositional thought which is manifested in questions and beliefs and judgments. Now we can see from the previous discussion of illusion that qualities are involved in an illusory situation in at least two ways: there is the quality actually manifested in the perceptual experience, and there is also the quality (which may be the same or different) that I believe the stick or the tie to have always or usually or under standard conditions. Now since I think of the stick as having a certain quality, I may be led to say that the stick has this quality *in my mind*, and if my belief is false, i.e. if I am wrong in believing the stick to be bent or the tie to be purple, I may express this by saying that the stick is bent or the tie purple *only in my belief*, or *only in my mind*. And from that it is a short step to saying that the bentness of the stick or the purpleness of the tie *depends on my mind*, not only in the case where my belief is false but whether it is false or true. But it is obvious on reflection that though such a way of speaking does point to some real feature of the situation, the dependence involved is not a *causal* dependence at all. For one thing, this dependence holds even when the belief that the stick is bent or the tie purple is false, and where consequently there is no real object, the bentness of the stick or the purpleness of the tie, which could causally depend on my mind or on anything else. What really does exist, and what does depend on my mind, is my *belief* that the object has such and such a quality. My suggestion, then, is that the definition of illusion in terms of dependence on the mind is due to a failure to distinguish between the dependence upon my mind of the belief that a certain object always or usually has a certain quality and the dependence upon certain processes, mainly material, of the manifestation of this or some other quality in the immediate object of perception. And because the proposition or belief is *about* some particular object, we may be tempted to say that the qualities which I believe it has are *its* qualities, though only *in my mind*. If this is right, it is reasonable,

I suggest, to hold that what is essential to the notion of illusion is not the causal dependence of the qualities of the immediate object upon material or other processes but the mind's activity of judging or entertaining propositions which if the experience is illusory are false.

It may be objected that dependence of these qualities upon anything other than the intrinsic nature of the object *entails* their being illusory. How can they be real qualities of the thing if they depend upon something else, whether that something else be our minds or some material structure or process? The question is an important one and will be discussed presently (§ 7, Part II, in next issue). In the meantime there are one or two finishing touches to be added to our account of illusion.

(*To be continued*)

MODES OF CAUSALITY

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In his analysis of the concept of causality, Hume finds that all events accounted causes and effects are contiguous and successive.[1] No object can act efficaciously upon another so long as the objects are at a distance from each other. It may sometimes appear that "distant objects are productive of one another," but on examination it is discovered that they are linked together by a series of intermediate causes which are contiguous among themselves; and even where examination does not directly disclose the intermediate causal chain, it is still presumed that it exists. Also the cause is temporally prior to the effect. If I throw a stone through a window, the smashing of the glass *follows* the act of throwing the stone. It is only after the realization of the cause that the effect appears. Thus a cause is an object that is precedent to and contiguous with another object that is called the effect.

But in the light of his basic philosophic principles can we reasonably affirm that Hume is justified in concluding that both succession and contiguity are essential characters of causation? According to those principles the world of experience is composed of "loose" and "separate" objects. Events follow each other, but search as we will we cannot find any "tie" between them. Now for such a metaphysical position, causal precedence can only mean that the cause and the effect are separated by some time-gap, however small. If the separate event called the cause precedes the separate event called the effect, a lapse of time must intervene between the cause and the effect, otherwise neither the cause nor the effect would be a discrete occurrence. Mr. Russell, therefore, is wholly in line with the empirical tradition when he defines causation as follows:

> "Given an event E1, there is an event E2 and a time-interval T, such that whenever E1 occurs, E2 follows after an interval T."[2]

In this formulation the interval T really represents a sort of vacuum isolating E1 from E2, and in order to bridge the vacuum we must postulate the existence of intermediate events. We may then say that E1 becomes E2 because E1 becomes E3 and E3 becomes E2. But how does E1 become E3 and E3 E2? It is clear that if the vacuous gap is to be bridged we should have to complete an infinite process. The same difficulty would be involved if the causal process

[1] *Treatise*, part 3, section 2.

[2] *Mysticism and Logic*, p. 183.

were regarded as teleological instead of as efficient. This is immediately recognized when we bear in mind Mr. Bergson's well-known utterance to the effect that a radical finalism is but an inverted mechanism.[1]

It might be said that the interval T is really not essential, and that the successive events are strictly contiguous among themselves. That, however, would involve a drastic modification of the fundamental "atomism" of traditional Empiricism. Events would have to be regarded, not as discrete entities, but as differentiations within a spatio-temporal continuum. They would be distinguishable phases within a continuous process of development. Hume, however, was not prepared to sacrifice his metaphysical atomism. On the other hand, had he taken the notion of contiguity seriously, he would not have been so puzzled over the elusiveness of the causal tie.

The fact is that the notion of transeunt causality cannot be reconciled with a system of radical Pluralism. When the cause occurrence and the effect occurrence are referred to the same entity, the causal nexus is said to be immanent, and when to different entities it is said to be transeunt.[2] Thus transeunt causality involves the external dependence of an entity on something other than itself. But according to pluralistic doctrine entities or orders of entities are inherently self-sufficient and even incapable of receiving any sort of assistance from without. Geulinx, for example, declared that any modification in the material order of existence is merely an occasion for the intervention of God, who is the real cause of the corresponding modification in the spiritual order. But in this system God is external to both orders, and so the mode of transeunt causality is really introduced by way of the causal activities of God. Leibniz, it will be remembered, had no liking for "the perpetual miracle" of Occasionalism and sought to solve the problem by propounding the theory of a pre-established harmony. But this solution, too, is ultimately untenable since the creative activity of God involved in the actualization of one out of an infinity of possible universes amounts to an instance of transeunt action upon the actual world of monads.

Thus the radical Pluralist is unable to give a satisfactory explanation of the manifest interaction of things. The conception of transeunt causation implies existential interdependence, a notion that directly conflicts with the doctrine of the independence of all real entities. The Monist, therefore, seems to have the advantage. But unfortunately he usually jumps to the conclusion that since transeunt causality is incompatible with strict Pluralism, therefore, transeunt causality is not ultimately real at all. In the last resort, it is argued, all causality is immanent, immanence being construed in terms of

[1] *L'Evolution créatrice*, p. 42. [2] Cf. W. E. Johnson, *Logic*, part 3, p. 128.

the logical relation of ground and consequence. So far from being detached, the events of common perceptual experience are but the detailed modes of expression of the single system of reality. Hence we get such a definition as the following:

"A true cause is one to which the reason not only moves but in which it rests, and except in a first cause the mind cannot rest. . . . A true cause is a single all-originating, all-pervading, all-sustaining principle . . . all things must consequently 'live, move and have their being' therein. It is at their end as well as at their origin; it encompasses them, all round, it penetrates them, all through. The least things are not merely linked to it by intermediate agencies which go back an enormous distance, but are immediately present to it, and filled to the limit of their faculties with its power."[1]

It has been said by writers who follow this line of thought[2] that such causality should be termed "rationality," since the priority of the cause is not temporal but logical, the *ratio* or real cause being temporally present throughout the whole cosmic process. Spinoza directly equated the ultimate *ratio* with God, who is not *causa remota* but *causa immanens* of the universe, as all things directly depend upon his timeless essence.[3]

Kant's interesting argument in the third *Critique*, though more reserved than Spinoza's, arrives at a similar conclusion in the end.[4] It is contended that the principles of Mechanism and Teleology are necessarily involved in the "reflective" judgment of the inductive procedure. The teleological principle is held to be prompted by particular experiences such as the movements of organisms. In scientific investigation the mechanistic principle should be pressed as far as it will reasonably go, although the distinction between the two causal principles can never be done away with. The attempt to reduce Teleology to Mechanism overlooks the fact that the latter takes no account of the evident existence of qualitative differences in nature. Cartesianism, for example, really failed through essaying to reduce nature to matter and motion, forgetting that the individual is characterized by certain properties that are not susceptible to quantitative analysis. Accordingly, for the proper understanding of nature the teleological principle must be used to supplement Mechanism. But, Kant continues, although the human understanding is "discursive," yet it is possible to consider the world as a phenomenon, whose substrate is a thing in itself and an object of intellectual intuition. Mechanism and Teleology, therefore, which necessarily subsist side by side in nature, may be regarded *as if* they have the

[1] Robert Flint, *Theism*, pp. 124, 127.

[2] E.g. A. C. Bouquet, *A Study of the ordinary Arguments for the Existence and Nature of God*, p. 25. Cf. A. E. Taylor, *Elements of Metaphysics*, pp. 183 ff. and J. L. Stocks, *Time, Cause and Eternity*.

[3] *Ethics*, 1. 15.

[4] *The Critique of Teleological Judgment*, sections 77 f, etc.

eternal ground of their union in the supersensible substrate of nature. Though separated on earth, they may be married in heaven!

The rendering of immanent causality in terms of an eternal being, however, robs the concept of its essential character. Causality cannot suffer de-temporalization and remain causality; and to reduce it to the logical relation of ground and consequence, so far from constituting a final explanation of it, is really to leave it without explanation. For it is impossible to show how a timeless logical relation can assume the character of a temporal relation such as causality fundamentally is. As in the case of Spinoza's system, an unresolved dualism must remain between the temporal appearance and the eternal reality.

But the de-temporalization of causality is not a necessary consequence of a criticism that has exposed the contradictory character of the modes of transeunt causality within a strictly pluralistic scheme. The isolated and self-sufficient events to which a pluralistic formulation of causal efficiency or teleology directs our attention are, as we have already suggested, fictions excogitated by that same manner of thinking which makes a succession of discrete moments out of what Mr. Bergson calls "real duration." The whole conception of the necessity of an infinity of intermediary events to bridge the gap between the cause and the effect is founded upon a conceptual misrepresentation of the real situation. We must take the notion of contiguity seriously and admit that what confronts us in actual life is not a succession of discrete events but distinguishable phases within a spatio-temporal continuum.

In the real world actual events fuse with their environment which is ultimately co-extensive with the universe itself, so that each enters into the life of the others. There can be no "resurrection of the body of past experience"—to use one of Bradley's phrases—since the past is not dead, and resurrection without death is unmeaning. The past as we actually experience it is a living past which "gnaws into the future and swells as it advances," and existence is an activity continually enriched with the duration it accumulates.[1] The several individuals of the universe, that is to say, are mutually immanent in an efficacious manner. The description of immanent causality in this way does not dissolve causal efficiency and teleology in a supersensible eternity, but shows them in their living context from which they cannot be segregated without losing their intelligible reality. Taking as our basis any particular individual entity, we see that the universal influences of the past converge in the ultimate individuality of the entity which participates in a certain "form" in common with other members of the same species, and that the entity under review envisages open possibilities in the transmutation

[1] See Bergson, *op. cit.*, pp. 2, 5.

of the past into the future through its own individuality. To quote Mr. Whitehead, who takes his own individuality as the basis of reference:

"My unity . . . is my process of shaping this welter of material (i.e. my subjective reactions to the environment as active in my nature) into a consistent pattern of feelings. The individual enjoyment is what I am in my rôle of natural activity . . . and yet, as being myself is a continuation of the antecedent world. If we stress the rôle of environment, this process is efficient causation. If we stress the rôle of my immediate pattern of active enjoyment, this process is self-creation. If we stress the rôle of the conceptual anticipation of the future whose existence is a necessity in the Nature of the present, this process is the teleological aim at some ideal in the future."[1]

The precise manner in which the efficacious influence of any entity is exercised depends on its intrinsic individuality with its peculiar properties, the type which claims its membership, and the spatio-temporal location in which the entity finds itself.

We are now in a position to appreciate how both Fatalism and Finalism err through the exaltation of a partial feature of reality to the exclusion of other features, with the resultant presentation of a *Weltanschauung* which represents nothing more than a bare abstraction and a flagrant distortion of fact. The Fatalist thinks in terms of efficient causation, while the Finalist concentrates his attention on a consideration of the teleological determination of the future, neither type of thinker exemplifying genuine philosophic impartiality. However valuable the departmentalization of nature and the consideration of subordinate aspects in isolation may be in the practice of the special sciences, it is nevertheless true that such a procedure can easily bring mischief into philosophy, as the history of thought makes abundantly clear. For reality's actualities are mutually implicative.

The mechanistic Fatalist holds that he consistently applies the principle of causation which is at the basis of physical science to metaphysics. He interprets it as the principle according to which every occurrence in the world is such that its character is constituted beforehand in virtue of the antecedents. B follows A and is the precise character that it is as a result of the intrinsic nature of A. The destinies of things are fixed in advance by the constitution of the things that have gone previously. All is settled in the past. Physical science in its enunciation of the laws of nature simply expresses the particular ways in which the causal principle works itself out.

But this is not a sound interpretation of the way in which physical science utilizes the causal principle. Primarily physical science does not say that the future is contained in the past, but describes the constancies of nature and those constancies repeat themselves. It

[1] *Modes of Thought*, p. 228.

does not take its stand on the past in all its unlimitedness, but only on a particular restricted past. Only in a very limited way does the scientist assume the rôle of a prophet. In general he does not say what to-morrow will be on the basis of what to-day is. What he says is that given certain conditions, certain consequences will follow. If A, then B. The scientist cannot entirely eliminate the hypothetical element in the law he enunciates.

It may be objected that this is only due to the limitations of our knowledge, and that were science ideally completed it would be possible to say what the future holds. But is it in principle possible for man to know all the conditions of the present, the geography of all the details of the universe? Apparently not. But this does not affect the advance of the sciences, since they deal with formal constancies in general rather than in their material exemplifications. Restricted sets of conditions are assumed, and from them certain consequences are deduced by reason of the constant formal resemblances in the universe. A something is necessarily taken as the starting-point. The scientist may go beyond what has hitherto been an accepted starting-point in scientific deductions, but he is unable to go indefinitely beyond it, delving as it were into the infinite past. His analysis must stop sooner or later at a definite set of conditions that is taken as the basis of the scientific reasonings. Science does prophesy, but fundamentally it consists in systems of statements about reality's normal functionings rather than in prophecy. If Mr. Taylor's interpretation is correct, this notion of a *limit* or *irrational* in all theorizing about the world was recognized by Plato in the *Timaeus*:

"In the real world there is always over and above 'law' a factor of the 'simply given' or 'brute fact,' not to be accounted for and to be accepted as simply given. . . . It is the presence in nature of this element of the given, this surd or irrational as it is sometimes called, which Timaeus appears to be personifying in his language about Necessity."[1]

From the psychological point of view, Fatalism is primarily thought of in terms of heredity and environment. What I do has been determined by what has gone before. This doctrine is really self-destructive, since on the basis of the fatalistic principle the Fatalist is ultimately determined to say what he does, not by the fact that he thinks what he says is true, but by the peculiar nature of his heredity and environment. So with all the opinions of men. Thus, as far as humanity is concerned, truth is unattainable.[2] Again,

[1] *Plato, the Man and his Work*, p. 455. Cf. Meyerson, *Identité et Réalité*, chap. 9.

[2] Cf. *Religion and Science*, pp. 199 ff., where Mr. Russell's evident *purpose* is to demonstrate that he, like all men, is destitute of purpose, being always subjected to complete determination by the antecedent states of atomic structures!

according to the fatalistic doctrine, the past determines although the past that is alleged to determine can never be found. The determining past eludes apprehension. It recedes as it is approached. In the sequence A–B, the Fatalist is precluded from saying that A is the determinant of B, for when A is examined it is found that it is destitute of determinant efficacy, its character being entirely fashioned by its antecedent set of conditions. The search for a determining something must be an everlasting quest for an essentially elusive ideal. Thus full-blooded determinism turns out to be a doctrine that denies causal potency of everything within experience. It presents us with the conception of a world in which every inhabitant is determined by something else which is not knowable. All is passive in the arms of an inexorable fate where the fate is unassignable. There is no such thing as an assignable cause, since everything merely transmits to its successor what it has received from its predecessor.

Thus, whatever be the status of the fatalistic dogma, it is certainly not empirical in the useful sense of that much-abused word. It is not based on familiar and intimate experience where causal efficacy is a fundamental characteristic. Fatalism puts all its premisses in the unassignable past. Take, for example, the variety of the universe. A and B affect C in different ways. This difference is held to be due to the different ancestries of A and B; A, like B, being at the confluence of certain lines of causal transmission, a1, a2, a3, etc. A itself cannot affect anything as it is wholly passive, but a1, a2, a3, etc., affect A in different ways so as to create it. Presumably this affection does not operate *in vacuo*, as the linear transmissions only exist in punctual incarnations. E.g. a1 is successively incarnated in A1, A2, A3, etc. Thus A1 contributes to A's peculiar affection of C, which differs from B's affection of C, and so by infinite regression we arrive at the unassignable past where all the linear transmissions terminate. These terminations hold all the variety of the world. But it is difficult to see how the accidental confluence of the linear transmissions in particular points can have given rise to the unity amid variety such as we actually find in nature. As Mr. Bergson has shown,[1] it cannot be supposed that the concourse of an infinity of infinitesimal causes presented in an accidental order can have attained the same result several times on independent lines of evolution in different spatio-temporal regions. Among other things he cites the striking similarities in matters of sexuality between plants and animals. Here we have two divergent streams of evolution in different locations, involving different favourable conditions and different obstacles, and yet the production of different effects with identical characteristics.

[1] *Op. cit.*, pp. 61 ff.

But in any case why should we push into the unassignable past something which is just as obviously involved in experience as the patches of colour which I perceive on the walls of my room? Moreover, the manner in which the causal transmission takes place between the punctual incarnations requires elucidation. Can B transmit causal efficacy from A to C if it be wholly passive? The Fatalist tends to ignore the punctual incarnations through directing his attention on the lines of determinacy as they extend into the past. Evidently these lines are only actualized by their incarnation in some material entity in which they operate. There is no incarnation in a purely spiritual world, and it is difficult to see how concrete individuals can be born in a purely abstract world of linear causalities. Thus, if we are to do justice to the concrete character of the world of experience, we must admit that B has some initiative of its own whereby causal modifications are transmitted, that its intrinsic individuality has a finality which cannot be explained away. Accordingly, if nature makes the subject, nevertheless the subject makes nature in virtue of the originality involved in its own decisions. Mechanistic Fatalism looks to the past and forgets that the individual is no mere patient, but also an active agent within a casual continuum. In real experience we are acquainted with a vital factor in the existence of the present, the "brute fact" of the individual's effective autonomy which actively mediates the passage of the past into the future.

In recent years within the domain of physics itself, certain facts have come to light which stubbornly refuse to submit themselves to explanation by the principle upon which physics has prospered since the seventeenth century. We might compare the breakdown of the attempt to base biological science on mechanistic principles. The epistemological limitations of the postulates of classical physics in the light of recent scientific developments have been elucidated by Mr. Le Roy in a series of important papers on the philosophical implications of microphysics and macrophysics.[1] Mr. Le Roy contends that the present situation in physics is such as to compel us to regard the physical world as divided into three zones, which are not, however, to be taken as mutually exclusive. Firstly, the middle zone where the phenomenal scale corresponds to that of our ordinary movements and the thought interpretative of them. Secondly, the zone of the immense where physics is dominated by *c*, the velocity of light. Thirdly, the zone of the minute where physics is dominated

[1] See *La Revue de Metaphysique et de Morale* (Paris), Nos. 2 and 3, 1935. Cf. *La Revue philosophique* (Paris), Nos. 1–4, 1937. These papers appear to be little known on this side of the Channel. Mr. Bergson told me recently that they are the most illuminating discussions of the matter that he had come across.

by Mr. Planck's constant *h*. When the scientific inquiry passes beyond the frontiers of the middle zone to either of the extreme zones, a modification of the ordinary way of looking at things is required, a reformation of its familiar tendencies, abstractions and habitudes, since these latter are strictly relative to the middle zone of experience. The "minute," that is to say, is not a simple replica of the "mean" on a reduced scale, and therefore the familiar postulates which are categorial in classical physics cannot be satisfactorily applied to the phenomena of the extreme zones. It is Mr. Le Roy's contention that the real reason for the microphysical paradoxes lies in the utilization of the image of punctual or quasi-punctual localization to figure material existence in the realm of the minute. It is not legitimate to speak of particularized corpuscules on the microscopic scale, because there is a limit beyond which our common procedures of *morcelage* prove themselves to be unworkable. In microphysics the domain of experience wherein the idea of the discrete entity is legitimate has been left behind. The abstraction is only valuable up to a certain point and, this point passed, we find, under the form of an apparent indetermination, something too schematic in our categorial equipment to represent the concrete reality. The synthesis required is, according to Mr. Le Roy's conclusion, fulfilled by the conception that all things participate in the universal flux, a conception, however, which does not imply the abolition of the notion of substance, but merely its adaptation to a perspective which sees existence historically.

Thus we may at least go so far as to say that physical science itself no longer affords justification for the metaphysical view that the world is made up of discrete events in temporal succession. The idea of punctual incarnations of linear transmissions of causation is in fact nothing else than philosophical mythology, originally generated by the abstractive tendencies of human cognition to which reference has already been made.

A good deal of the confusion which is generally to be found in discussions of the nature of causation is due not only to the fact that there is a tendency, especially on the part of "scientific" writers, to think in terms of the past through laying excessive emphasis on the efficient mode of causality, but also to the fact that causality is often confounded with the concept of prophecy. Thus in his Gifford volume Sir A. Eddington says:

> "Modern physics is drifting away from the postulate that the future is predetermined, ignoring it rather than deliberately rejecting it."[1]

As is well known, from this alleged position of recent physics Sir A. Eddington goes on to infer that there is indeterminacy in nature.

[1] *The Nature of the Physical World*, pp. 293 ff.

It appears, however, that he only arrives at this conclusion by committing a *petitio principii*, in that he is unduly assuming that determinacy stands or falls with the power to prophesy what the future holds. But the idea of determination is very different from that of determinability. If the future is not determinable, it does not follow that the future will not be determined. Moreover, indeterminability is not something which belongs exclusively to the microphysical sphere. Prophecy is impossible in innumerable cases even for a mythical being like Laplace's calculator, who is endowed with superhuman powers. Thus, if we take our stand on the physico-chemical conditions which constitute the situation in which water arises, the water—with its wetness and other qualities that distinguish it from the unsynthesized oxygen and hydrogen—cannot from the viewpoint of those conditions be prophesied. It is necessary to wait and see. The resultant, or rather "emergent," wetness is not determinable in that perspective. But this does not mean that the water's nature is not determined by the preceding physico-chemical situation. The world is a causal continuum and yet full of surprises.

Again, freedom of the will does not imply that prophecy of human conduct is impossible. The truth is rather that such prophecy, in so far as it is possible (and I have no doubt that it is to some extent possible) assumes freedom. If I say that a friend would not do such and such a thing, my presumption tacitly assumes that he is acting freely within certain pretty well defined limits. In prophesying, that is to say, I am not normally taking account of certain compulsions that may possibly arise to affect his conduct *ab extra*. For freedom is not absence of determination, but self-determination involving self-originative activity and the entertainment of ideal ends. The failure to recognize this truth leads one into hopeless metaphysical difficulties, as is clearly seen in the arguments of those writers who, like Sir A. Eddington and Sir J. Jeans, see in human freedom nothing more than an amplification of quantic incertitude. Thus Sir J. Jeans makes the following statement:

"The concept of strict causation finds no place in the picture of the universe which the new physics presents to us, with the result that this picture contains more room than did the old mechanical picture for life and consciousness to exist within the picture itself, together with the attributes which we commonly associate with them, such as free-will. . . . To-day science . . . has no longer any unanswerable arguments to bring against our innate conviction of free-will. On the other hand, she gives no hint as to what absence of determinism or causation may mean. If we, and nature in general, do not respond in unique way to external stimuli, what determines the course of events? If anything at all we are thrown back on determinism and causation; if nothing at all, how can anything ever occur?"[1]

[1] *The Mysterious Universe* (Pelican edition), pp. 43 f. Cf. Russell, *Religion and Science*, pp. 144 ff., where there is similar confusion.

These questions which Sir J. Jeans poses but does not answer are in fact unanswerable, just because free action is conceived of as incompatible with causation, as a sort of bolt from the blue.

The vicious opposition here involved is really a recrudescence of the Kantian distinction between the transcendental world of noumenal freedom and the empirical world of phenomenal causation, an antinomy which probably finds its most important recent formulation in the writings of Meyerson. To use his own words:

"The concept of cause is really double, appertaining in part to the world of reason and in part to that of volition."[1]

Meyerson calls the rational sort of causation "scientific," since we seek to apply it to all the phenomena of science, and the volitional sort of causation "theological," since it is applied not only to action that issues from human freedom, but also by the religious mind to the intervention of the Divine into the course of events in nature. According to this doctrine, theological causality is something which lies wholly outside the domain of science and prevision. It is further contended that the defining characteristic of scientific causality lies in the notion of "identity," as science is always endeavouring to adapt phenomena to the principle of identity, although his endeavours in this direction are never wholly successful, since there is always some persistent factual differentiation which precludes the possibility of his ever obtaining his ideal of complete identity between the antecedent and the consequent. Scientific causality is thus "restricted" for the scientist by reason of the existence of variety in nature.

This doctrine, however, is philosophically untenable as the causal relationship always involves the element of change.[2] No one doubts, of course, that the advancement of science involves a process of convergence towards quantitative homogeneity which is construed as the basis of the factual heterogeneities exemplified in the perceptual world. Thus mathematically formulated correlations figure more prominently as scientific investigation progresses. But this does not warrant the conclusion that causality, when appreciated in the light of scientific advancement, is seen to be ultimately a changeless relationship of bare identity. For if the cause were strictly identical with the effect, there would be no causal relation at all, but simply the blank continuation of the same state, a situation which would render the most abstract of scientific correlations impossible. In other words, the correlations of physics contain different symbols

[1] *Identité et Réalité*, p. 43; Cf. pp. 35 ff.

[2] *De la Contingence des Lois de la Nature*, pp. 25 f. "Would an effect, a change, exist, if it did not differ from the antecedent either in quantity or in quality?" Boutroux also speaks of "the appearance of a new element which is the indispensable condition of a causal relationship."

representing factors in nature that affect and in some manner modify each other, and therefore the "values" of the variables in the equations.

There is a sense, however, in which causality is "restricted" for science, although it is not so restricted in reality. The whole universe of the past conditions the actual nature of an individual in the present, but science does not take account of all things in each of its descriptions. It concentrates on the formal features of reality, and its laws are necessarily schematic. The problem of induction consists in the determination and elimination of what is irrelevant within a specific perspective. In a certain type of situation certain types of events enjoy certain types of changes—that is the sort of description with which the scientist presents us. He makes a working distinction between what sustains a situation and what modifies it. Nothing less than the totality of things creates any situation, and that situation given, science promulgates laws as to what happens when certain types of objects are brought to bear upon it. Remote movements, which are always affecting the situation slightly, are dismissed as irrelevant. The scientific procedure is always selective, and one of the important functions of metaphysics is to impartialize its partialities by synthetic generalization.

But the most serious charge to which Meyerson's doctrine is open lies in its failure to recognize that action which issues from human freedom is not incompatible with scientific prevision, and that psychology is just as much a science as physics, although it is lest developed because of the greater complexity of the material with which it deals. In other words, freedom is not sheer contingency, but self-determination. Free action is no exception to the determinacy in nature, but a particular exemplification of it. It is determinacy viewed as it were from the inside.

Generally speaking, when we think of self-determination the idea of teleological causality is not far from our thought. Now if by this conception we mean complete determination of the past by the future, we are imagining something which does not exist. Radical Finalism is just as untenable as the mechanistic doctrine. It is mechanistic Fatalism upside down. In brief, both doctrines represent radical conceptual abstractions of aspects which the cosmic process undoubtedly possesses. Teleology, in any tenable sense of the terms, does not imply that time's arrow is reversed and that the universe flows back on itself. For clarity of thought it is necessary that a distinction be made between the real future and the future as envisaged. The envisaged future always exists as an integral element in the real present. When the envisaged future is prominent as an element in present individual experience, the real future may on occasion be said to be determined in some measure by the future as

envisaged. But this is clearly not a case of determination of the present by the real future.

The action of the world on us is bondage. Our action on the world is freedom. The world enters into us and then proceeds from us. The public becomes private and the private becomes public. The confluence of multifarious publicity into the unity of privacy is efficient causality, and the outflow of privacy into publicity is self-determination. In the more rich of individual natures the self-determination is generally more obviously creative and accompanied by more or less conscious envisagement of future possibilities for realization in practice, which constitutes a determining agency in the making the particular future concerned. Such a teleological agency has its anticipations in the infra-human world, as when an animal responds to one stimulus rather than another. It is just this envisagement of the future as an explicit feature of experience which most clearly differentiates human conduct from the activity of other types of creatures.

DISCUSSION

SIR CHARLES SHERRINGTON'S *MAN: ON HIS NATURE*[1]

Among the acquaintances of William James was a lady who held the world to be composed of two elements only, the Thick and the Thin. In a characteristically flippant and profound commentary on this analysis, James applies it to that part of the world called philosophy, contrasting the vision and thickness of Fechner's writings with the thinness of the Hegelianism then rife in England and America.

To be worthy of the name, in James's esteem, a philosophy must be thick, and to be thick it must somehow take into itself the rudeness, the hurly-burly and diversity of phenomena. For him no empty rationalistic absolute, no "timeless soap bubble," blown up however vast, be it called the transcendental ego of apperception or by any other high-sounding name. A real philosophy must have a more solid architecture than this, substantial and well articulated enough to carry the richness and multiplicity of the perceptual world.

It would be indeed a carping critic who could find in this book of Sherrington's any taint of emptiness or lack of solidity. It teems and overflows with a vast diversity of facts, drawn, like Fechner's mostly from the biological realm.

The author's aim in writing these lectures seems to be implicitly stated on the first page: "As to this last, Natural Science in its progress can provide a frame of reference for Natural Theology. . . . Natural Science is a branch of knowledge by general consent not primarily based on the *a priori*. It derives essentially from details. It amasses them and lives on and by them. Its generalizations so built up are even when arrived at constantly being controlled by fresh details. In that way its generalizations do from time to time suffer change. Natural Theology is interested in this as a background and context for its own text."

I take it that the intention is to provide a background and context, a background mainly factual, for Natural Theology. An alternative title might have been "Raw Materials for the Study of Natural Theology." If I am right in so taking the author's intention, it may seem ungracious to complain that much of the material, diverse and plentiful though it be, is offered in a very raw state indeed, so that it is often extremely difficult to find a thread of argument in the maze of factual material. The chapter entitled "The Wisdom of the Body," for example, packs into thirty or so pages information on tissue culture, genetics, embryology, growth, colloids, X-ray analysis, proteins, muscular contraction, genes, the structure of the eye, organizers, twins, sterols, and numerous minor topics. No emptiness, no lack of hurly-burly here, but in some readers it may induce an ascetic longing for the transcendental ego of apperception.

Yet it would be unfair to give the impression that the author has presented nothing beyond raw materials unillumined. There is a general plan, a unifying

[1] *Man: on His Nature.* By Sir Charles Sherrington, O.M. The Gifford Lecture, Edinburgh, 1937–8. 21s. Cambridge University Press, 1940.

idea, implicit rather than explicit, often lost in the exuberance of detail, but recurring.

In explaining this general plan, in the first chapter, Sherrington begins by pointing out that the background for Natural Theology which he finds in Natural Science is not static. It is a process, a stream always moving. We can only hope to understand this background, therefore, by considering it as a moving thing, an essentially historical process. To arrive at such an understanding, Sherrington uses a method analogous to a well-known mathematical technique. In effect, he says, Natural Science is a function of time. Let us, as it were, take two points on the time axis, evaluate the function at these points, and so get a rough empirical estimate of the direction of the curve. One of our points, obviously, will be the present time. And the other? It must not be too near, or small errors in our measurements will lead to large errors in our estimate of the trend of the curve. On the other hand, if we take it too far back our estimate will not approximate to the slope of the curve in a given neighbourhood.

With these considerations in mind, Sherrington takes as his first point the mid-sixteenth century. As an epitome of the thought of this period, he takes a book entitled *On Hidden Causes*, written by Jean Fernel.

Fernel, physician to Henri II of France, was deeply interested in cosmology and in the revival of ancient philosophy. But as a physician his proper study was always man. His work, many times reprinted, found a constant audience among the educated for over a hundred years. So that it may be taken that Fernel succeeded in expressing something essential in the *Geist* of his times, some fundamental aspect of the contemporary view of man on his nature.

In the first chapter, having announced his programme, the author discusses some of the salient points of Fernel's treatise. One passage in particular he quotes at length as being in the nature of a manifesto of Fernel's fundamental beliefs. "Nature, embracing all things and entering into each, governs the courses and the revolutions of the sun and the moon and of the other stars, and the succession of times, the change of the seasons, and the ocean's ebb and flow. Nature rules this immensity of things with an order assured and unvarying." All this, even the hypostatization of Nature, might be any nineteenth century mechanist. And it would be fairly safe to assert that most contemporary biologists would find in this passage a reflection of one of their fundamental assumptions. Among the physicists there is notoriously no such unanimity: since Heisenberger there has been much discussion but little agreement regarding the extent and status of natural law. And among philosophers to-day, Fernel's statement would arouse more opposition perhaps than assent. Thus one of them asserts "the fact that it can be described by Newtonian mechanics asserts nothing about the world."

These comparisons have, I think, a bearing on Sherrington's programme. First, is it really possible to hope that, by taking a cross section at just two points in the history of Natural Science we may gain an insight into the essential dynamics of that history? The progress of science is so complex, the inter-relationships between the various specialist studies so many-sided and constantly changing that it is at least open to doubt whether so simple a procedure can be adequate to its purpose. Secondly, I am inclined to regard the treatment of Natural Science as a background for Natural Theology as an over-simplification of a similar kind. It may be doubted, for example, whether at any point philosophy owes as much to the special sciences as they to Cartesian metaphysics. The background for the concept of Natural Law is itself to be found in the earliest metaphysical problem discussed in Europe, that of the One and the Many. Such problems are still discussed by philo-

sophers to-day, though they tend to regard them either as pseudo-problems, or as purely logical problems disguised in the "material mode" of speech. The outcome of these discussions will no doubt in turn affect the methodology of science. The interlocking between Natural Science and Natural Theology is so complex that there is great risk of falsification in regarding either merely as a "background" for the other.

Fernel goes on to find the ground for his mechanistic framework of Nature in a directing intelligence. "This reign of law was created with the world for the world; verily it is the mind and will of God." Further, he almost goes so far as to extend the mechanistic scheme to living organisms, including Man himself. "Hence, seeing this, for the physician there is in man nothing whatsoever which does not come within the law of Nature, nothing whatsoever excepting only his knowledge and his power to will . . . in short, his 'reasoning soul'." Almost, but not quite. Although he comes again and again to the edge of such a notion he always withdraws to the position that "form" is separable from "matter," not merely in "analytic thought" but in "existence" and that it is the entrance of form which changes non-living into living matter. Fernel seems to have regarded his identification of form with the "innate heat" of living bodies as one of his major contributions. Possibly he felt that by equating form to an attribute of matter susceptible of description in perceptual terms he was on the way to reconciling his mechanistic leanings with his metaphysical idea of separable form.

The third chapter is a discussion of "The Natural and Superstition." Here Sherrington draws an interesting distinction between the two kinds of superstition prevalent in Fernel's day, namely, belief in "natural magic" and belief in astrology. He tells us that "A man in those days . . . might be sceptical about magic and yet endorse astrology. He would appraise it as a science." Further, "Astrology was at that time the most mathematical and probably in general opinion the most regarded branch of natural philosophy. So far as natural philosophy could claim relation and affinity to theology, the 'Queen of Sciences,' the science best qualified to do so was probably in current opinion astrology." This points to an interesting possibility for the historian of philosophy and natural science. If it be true, as Sherrington says, that astrology claimed such wide respect, even from sophisticated intellects, as the *most mathematical* of intellectual activities, it may perhaps claim a much more respectable rôle in the history of thought than is usually accorded to it. It is customary to represent the scientific renaissance as a sort of "back to Nature" movement, a rebirth, or birth, of the empirical method. I have argued elsewhere that it was rather a renaissance of the Pythagorean outlook on the universe, an outlook half mathematical and mechanistic, half mystical, but certainly not empirical. Any return to Nature which occurred in the Renaissance was the work of men like Botticelli, Giorgione, and so forth, rather than of the founders of scientific method. The empirical attitude, of course, came out of the scientific renaissance, but it was not explicitly present in its origins. On this view, one of the paradoxes of the history of science is removed and we need not, with Dampier-Whetham and others, regard it as "one of the ironies of history that a return to the mystical doctrine of numbers should have led Copernicus and Kepler to formulate a system, which, through Galileo and Newton, takes us in direct descent to the mechanical philosophy of the eighteenth century." And on this view it is a naïve anachronism on our part to see anything odd or contemptible in the astrological beliefs of Fernel and his learned contemporaries. On the contrary, such beliefs may have been, not merely an important, but perhaps even an essential stage in the development of science. Sherrington informs us that Fernel, "despite his early enthu-

siasm for astrology, became, as years went by, gravely disillusioned in respect of it. His fervour for it had been prior to his entering actually on medical practice. He was at that time a mathematician." That is to say, Fernel's defection from astrology followed, and seems to have been the outcome of, his transfer of allegiance from the mathematical to the biological side of science.

Chapter III is called "Life in Little" and centres around the revolution in biological science which resulted from the discovery of the small forms of life revealed, a century after Fernel, by the compound microscope. Surprisingly, biology had to wait another two centuries for the other great result of Galileo's invention, namely, the cellular hypothesis. Cellular physiology came later still. Much of this chapter is given to a recital of various aspects of the physiology of the cell. The discussion leads up to the statement that the cell is "a moving structure, a dynamic equilibrium. It is a moving system so constructed as to establish and maintain itself for a time." To my mind the generalization to which Sherrington points here is one of the most fundamental in biological science. The morphological pattern of an organism, once ontogeny is complete, is fixed, the structure unchanged until death. But the fixity is not, like the structure of a machine, a static fixity. It is dynamic. Material constantly flows from the world into the organism and from the organism back to the world. Morphological fixity is essentially a process; the pattern of the organism is an eddy in a stream of physio-chemical change. This is vividly exemplified in the popular saying that the whole material of the body changes every seven years. Seven years is a period chosen on cabalistic rather than biological grounds, but the statement expresses an important fact in a very striking way. Now it is possible to find in the inorganic world all sorts of processes analogous to growth, reproduction, nerve conduction, cell division and other "vital" phenomena. In fact there is in America a whole school of physiologists whose chief preoccupation is the construction of inorganic "models," as they are called, of such processes. The significance of such models is at best analogical, they are not offered as concrete imitations of organic activity but merely as patterns having certain formal resemblances to biological processes. But, as far as I know, there is nothing in the inorganic realm which bears even this sort of resemblance to the dynamic equilibrium between environment and morphological pattern. Nowhere outside the organism do we find physio-chemical changes collaborating to produce a fixed material pattern.

Sherrington, far from seeing this fixity in change as a unique attribute of living organisms, uses it rather to identify organic and inorganic activity. "Broadly taken, however, there is in 'living' nothing fundamentally other than is going forward in all the various grades of energy systems which we know, though in some less rapidly and less balancedly than in others. Whether atom, molecule, colloidal complex or what not, whether virus or cell or plant or animal compounded of cells, each is a system of motion in commerce with its surround, and there is dynamic reaction between it and the surround. The behaviour of the living body is an example of this and we call it 'living.' The behaviour of the atom is an example of this and we do not call it 'living.' The behaviour of these newly discovered so-called 'viruses' is an example of this, and there is hesitation whether or no to call it 'living.' There is between them all no essential difference."

But surely there is just such an essential difference. An atom may well be a system of motion, no doubt it is in commerce with its "surround," no doubt that commerce may be correctly characterized as dynamic, if only because it is difficult to see how commerce could be static. But the commerce does not,

if my rather slight knowledge of atoms may be relied on here, consist in the constant transfer of substances into, and out of, the atom. The atom is not maintained by the incessant anabolism and katabolism of a fixed pattern from a flow of heterogeneous materials. To put the matter in a nutshell, it is not essential to the existence of the atom, as it is to that of the organism, that its stuff should change every so often.

The point under discussion involves more than a mere biological technicality, because Sherrington claims that there is *no essential difference* between living and non-living systems. Briefly, the argument seems to be as follows: Organisms are things in dynamic equilibrium with the environment. This is an essential property of organisms. Atoms are in dynamic equilibrium with their environment. Therefore there is no essential difference between organisms and atoms.

Moreover, this statement does not appear to be an isolated verbal slip (which it would therefore be unfair to take up seriously) becuase it recurs, in various forms, throughout the book. On p. 86, for example, we are offered the argument that, since there is every gradation between living and non-living systems, "Life as a distinction between physico-chemical systems is a convention." Further on we are told that the "faculties" of life are "processes which examination resolves wholly into chemistry and physics." On p. 89 the statement is repeated that there is "no essential difference between 'life' and all the rest." On p. 291 we are instructed that "Natural Science has studied life to the extent of explaining away life as any radically separate category of phenomena."

The exact meaning of the statement that life is not a radically separate category of phenomena, is not, of course, obvious on inspection. It all depends on what is meant by "radically" and "category" in this context. It might be taken to imply, for example, that supposed "mental" or "psychical" events are nothing but special kinds of "material" events. Sherrington, as far as I can make out, does not mean this, since in several places he puts in reservations to show that he does not. Further down on p. 291, for example, he says "But though living is analysable and describable by natural science, that associate of living, thought, escapes and remains refractory to natural science." It might mean that events in the animal body, like material events outside it, are susceptible of description in spatio-temporal terms. If so, it scarcely amounts to more than the mere tautology that the perceptually knowable part of the organism is perceptually knowable. But it is quite evident, from the constant recurrence of statements of this kind, and from the weight which Sherrington appears to attach to them, that he is at pains to assert something more than a mere tautology. This being so, his statement is probably equivalent to a proposition of this kind—that if we had a complete understanding of the laws of chemistry and physics as exemplified outside living organisms we would then have at our disposal a complete apparatus for the prediction of events inside the organism, in so far as they are perceptually accessible to the observer. The provision that the events must have perceptual accessibility covers, I think, Sherrington's reservations about "thought" and such. And the rest of my statement seems to be compatible with, and not to go beyond the import of, Sherrington's numerous pronouncements about the nature of life in relation to inorganic phenomena.

Assuming that I have arrived at a fair statement of the author's meaning, the question arises. Is what he says true? It may be so. But I do not see how we can know it to be so, in the present state of scientific knowledge. Let it be at once stated that there is no reason whatever to suppose that the activities of proteins, for example, are in any way less susceptible of description by

"scientific laws" than the activities of, say, the separate elements from which the proteins are made up. There is every reason for the contrary belief. Does that put living stuff in the same "category" (in the intepretation I have put on Sherrington's word) as non-living stuff? Not necessarily. To the best of my belief, no one has ever succeeded in adducing the behaviour of proteins from that of carbon, hydrogen, nitrogen and the other elements into which the protein molecule can be resolved. In order to investigate proteins, protein chemists still have to deal with actual proteins, not merely with elements. For that matter, no one has adduced the properties of water from those of hydrogen and oxygen. Thus the problem is not one of mechanism *versus* vitalism, but rather a logical problem, which presents itself not merely as the transition from the inorganic to the organic, but at several transitions of complexity in nature. I am not ascribing "vital" properties to proteins except in the sense that, in the present state of our knowledge, the properties of water are "vital" in relation to those of its two components. And even if it does turn out that the behaviour of all material systems, living and non-living alike, can be schematized in terms of the properties of one or more "ultimate" units (electrons, etc.), the truth of Sherrington's statement would still not necessarily follow. Suppose that by ascribing certain sets of properties to these ultimate units we were able, solely in terms of these properties, to schematize the behaviour of all known configurations . . . inorganic compounds, fatty acids, polypeptides, proteins, sterols, viruses, bacteria, protozoa, mice, and men. Could we then say, with Sherrington, that the behaviour at any given level of the series, proteins, say, was not in a separate category from that shown at lower levels? Only, surely, if the properties ascribed to the ultimate units were discoverable by examination of the properties of matter evinced at those lower levels. Otherwise, nature would still be, empirically, an epigenetic series of "emergent" levels, even though reduced to an apparent logical homogeneity in terms of a set of ultimate properties.

Although this is a question which awaits the future development of natural science, its development so far points away from any kind of general schematization in terms of the lowest levels of complexity. Since the day when Wöhler's synthesis of urea opened up the biological realm to the methods of physics and chemistry, the history of biology has been the history of the discovery of levels of integration, each with its specific general laws, each demanding its own methodology. The laws governing the colloidal properties of matter and the laws governing the genesis of conditioned reflexes in the higher animals are two examples of this.

Sherrington is of course by no means alone in thus ignoring the epigenetic grouping of natural phenomena. His attitude, which is almost invariably assumed by philosophically-minded biologists who call themselves mechanists, seems to spring from a misplaced manifestation of the scientific urge to unify phenomena under laws of the widest possible generality. The history of biology provides a very clear example of this misplaced desire for unity. In the latter half of the eighteenth century the main preoccupation of the leaders of biological thought was to arrange all living creatures in a single series or "ladder," and by this means to find a single ground plan for all organic forms. To this end the most fantastic homologies were worked out. As a result of this determination to find more unity in Nature than there is there to be found, biology arrived at an impasse from which it was only delivered by Cuvier's famous type-grouping system. Cuvier's great contribution was the simple discovery that living organisms separate into a small number of *distinct* grades or types. All molluscs can be represented as modifications of a primitive generalized molluscan type. But the molluscan type is useless as a

schematization of arthropod morphology. For this we need a radically different type.

It may well be that natural science as a whole stands in need of a "theory of types" similar to that discovered in the logical realm by Russell.

I have already intimated that in such a hierarchy of natural types the emergence of "new" properties is not necessarily confined to the transition between the inorganic and the organic. Even so, it is possible that the novelty discernible at this level is of a more fundamental kind than that shown at lower levels. Animals differ in many ways from non-living things. They grow and reproduce and synthesize proteins from amino-acids. But if the man in the street were asked to point out what he considered to be the really fundamental difference between an animal and a table he would, I think, ignore all biological technicalities, and say simply that the animal is conscious and that the table is not. If his interlocutor were a logical positivist he would be told that he was using a metaphysical criterion and therefore talking nonsense. If I may be permitted the luxury of a statement which I cannot try to uphold here, I should say that it was the logical positivist who was talking nonsense. At lower levels than the organic, however, the epigenetic qualities, whatever their ultimate nature, show themselves as perceptual, not metaphysical differences. Let us for the moment ignore the positivist and suppose our man in the street to be right in his ascription of a metaphyscial characteristic to the living animal. We may then ask whether this characteristic also shows itself perceptually, and if so how. To find the answer we have only to turn to the mechanistic treatment of conscious behaviour—to the work of Pavlov and his school. We find that all the complexities of conscious behaviour are schematized in terms of one concept, that of the conditioned reflex.

Now the conditioned reflex is a schematic device unique in natural science, because it involves a description of behaviour, not merely in terms of a succession of instantaneous states, but in terms of the *history* of the animal. To predict the next stage in the animal's activity it is not enough to know the animal's state now, in this "specious present." It is also necessary to know the whole history of the animal's previous instantaneous states. Attempts have been made, with little success, to identify this state of affairs with various inorganic phenomena, with, e.g., the hysteresis of iron in a magnetic field. There is in fact nothing inorganic remotely comparable with the continuous historical integration revealed in the perceptually accessible aspect of conscious behaviour. Whether there is a metaphysical function called consciousness or not, conscious behaviour is accompanied by physico-chemical properties of a unique kind.

It would have been interesting to see what Kant would have made of the conditioned reflex. It would be interesting, also, to know what the positivists would make of it, if they took any interest in biology, or read Kant.

Lest it should seem that I have attached undue importance to one topic, I must here point out that the above discussion is directly relevant to nearly every chapter in the book. In a very interesting passage on p. 181, in which Sherrington discusses Fernel's attitude to what we now call the psychophysical problem, he finds a remarkable foreshadowing of the Cartesian solution to that problem. Here Sherrington tells us that, in the century previous to Descartes "our physician Fernel argued that the motor act cannot be subsumed entirely under the will. . . . Aristotle thought of motor acts as in every instance an appanage of mind. . . . Fernel does not feel satisfied about this. He is at pains to insist that there is bodily movement distinct from sense and will. . . . He remarks, and here the versed physician comes to evidence, that in disease, sensation may be lost and the 'will' be impotent

and yet movement occur. . . . He insists in short on the existence of a class of motor acts, animal and human, in which the thinking soul takes little or no part." Of course, Fernel did not take Descartes' revolutionary step of omitting the "thinking soul" as an efficient cause from all receptor-effector sequences, including even those of the kind ordinarily referred to as acts of will. But, although he did not invent psycho-physical dualism, Fernel does seem to have paved the way for it. Sherrington offers the opinion that Descartes was directly indebted to Fernel for the central point of his philosophy. In favour of this he adduces the fact that Descartes entered on medical studies at Amsterdam at a time when Fernel's treatise was the standard work on physiology. Sherrington also gives us the very interesting fact that Fernel anticipated Descartes in assigning to the pineal gland the function of a valve to control the passage of the "animal spirits" through the ventricles. In view of the great importance attributed by Descartes in his metaphysical studies to the pineal gland, such a resemblance would seem to be very significant. As we can see from the various passages which Sherrington quotes, the psycho-physical problem, if not always in the foreground, was always somewhere in the background of Fernel's speculations. The same is true of Sherrington himself, as we shall see by looking at the subject matter of the various chapters.

In Chapter V, entitled "Earth's Reshuffling," the author outlines the different grades of complexity found in inorganic and organic nature, and shows how they have evolved, from the cooling of the earth to the emergence of modern man. This chapter is for the most part purely descriptive, but there are constant references to the problem of how far evolution is "mechanistic," how far "teleological."

Chapter VI, "A Whole Presupposed of its Parts," (which contains the discussion of Fernel's influence on Descartes), considers the purposeful and teleological aspects of animal activity and tries to reconcile them with the mechanistic descriptions of biological science.

Chapter VII, "The Brain and its Work," discusses the same problem with specific reference to the physiology of the brain, particularly the cerebral cortex of higher animals. This chapter includes a description of the epoch-making work of Lashley on the effect of cortical lesions on the retention of the maze habit in rats. I could wish that Sherrington had given more prominence to Lashley's main conclusion, namely, that it is no longer possible to localize "psychic" functions in definite areas of the cortex. I should have liked, also, to see some reference to Lashley's concept of cortical gradients. Lashley's experiments show that the cortex acts as a whole, not as a functional mosaic, and that if it be damaged the remaining parts can, up to a point, take over the functions of the missing ones.

Chapter VIII is called "The Organ of Liaison." It continues the discussion of the functions of the central nervous system. There is a detailed account of Fernel's idea of the receptor-effector mechanism. Fernel attaches great importance to the cavities in the brain, another remarkable anticipation of Descartes. The bulk of the chapter is descriptive of the physiology of the brain, with occasional references to Fernel and the psycho-physical problem.

Chapter IX, "Brain Collaborates with Psyche," is a further development of the same theme. In spite of the title, the discussion is almost entirely on the physiological plane. Moreover, the author seems always to think in terms of the "connectionist" hypothesis of neural mechanism. No doubt one important function of the central nervous system is to act as a telephone exchange. But Lashley's work, to which I have already referred, has surely demonstrated that as an explanation of learning and other "higher" psychical activities the

connectionist hypothesis is totally inadequte to deal with the facts. If I may rush into a field whose technicalities are for the most part outside my ambit, I should say that to try to describe the mechanism of the cortex in terms of individual neurons and their interconnections is to think in terms of the wrong units. To recur to an analogy which I have already used, I should say that something corresponding to a higher logical type is called for. Lashley's concept of cortical gradients is an attempt in this direction.

Chapter X, "Earth's Alchemy," returns to the theme of the "stages of complexity," as Sherrington calls them, electrons, atoms, molecules, and so on, up to organisms. The author considers Eddington's statement that a table consists "wholly of electric charges" and discusses the epistemological problems which arise out of such a statement—the fact that the table does not ordinarily present itself in this light, and so on. However, the discussion quickly leaves this level, for we are then given a great many interesting facts about the physiology of sense perception. But the relevance of many of the facts is not always clear, and I think it is a pity that a more adequate discussion of epistemological questions was not attempted here, particularly in view of some of the conclusions reached. On p. 313, for example, "How can a reaction in the brain condition a reaction in the mind? Yet what have we sense organs for, if not for that? This difficulty with sense is the same difficulty, from the converse side, as besets the problem of mind as influencing our motor acts. I would submit that we have to accept the correlation, and to view it as interaction : body → mind." But such a statement is meaningless without some preliminary analysis of just what is meant by words like body and mind.

Chapter XI, "Two Ways of One Mind," takes up again the psychophysical theme of the earlier chapters. It begins with a description of the proprio-receptors and the geo-receptors, sense organs of great importance, whose existence seems to be little known except to the biological specialist. These organs continually make for us automatic postural adjustments—automatic in the sense of being outside conscious volition. Here again, Sherrington reminds us of the fact, of which Fernel himself was aware, that the "soul" has no direct control over, at any rate, some motor acts. He goes on to consider the problem whether "mind" can be said to be in "space," quoting Kant, "If I am asked where the seat of the soul is in the body, I begin to suspect something crooked in the question." Here again, Sherrington approaches the problem almost entirely from the physiological plane. One need not be a positivist to see that such matters must, in part at least, be pursued on the linguistic plane. On p. 337 he makes the interesting point that the attribution of immortality to the psyche prepared the way for Cartesian dualism, for if we ascribe such a property to one part of the organism, "the individual becomes double."

The last chapter, "Conflict with Nature," deals with the problem of suffering. Sherrington broaches this by giving an account of the life history of the malaria parasite which ". . . in India alone kills about 1,200,000 a year." We cannot, says Sherrington, offset this suffering by "co-existent equivalence of pleasure," like Cleanthes in Hume's dialogue. He then goes on to make the point (one is reminded of H. G. Wells here) that man may have more to fear from himself than from other predators. But Sherrington hopes that altruism will finally triumph and ends with a description of "Natural Religion."

The last, like many of the earlier chapters, is to my mind overloaded with information. The reader will recall Sherrington's purpose in writing the book —to provide a background to Natural Theology, rather than to discuss

Natural Theology itself. Even so, I think that there should have been more inquiry into the possible significance of the facts presented. Is the problem of suffering really clarified, for example, by a detailed description (such as may be found in any text-book of biology) of the life history of the malaria parasite? This information may form part of the background of Natural Theology, but it would be a more effective background if painted in a broader technique.

It is nowadays fashionable to suppose that philosophy should consist entirely of linguistic elucidations and that it has nothing to do with the hypotheses of natural science. On such a view practically the whole of Sherrington's book is an irrelevance. It is not easy to see how such a view can be seriously maintained. I have, for example, discussed Sherrington's statement that life is not in a radically separate category from other phenomena and interpreted its truth or falsity as depending on the type of unity discoverable in scientific laws. Either the whole body of scientific law is an epigenetic series, a series with jumps in it, or else there are no jumps, and everything can be schematized in terms of the simplest configurations. Only empirical science can decide this for us. And this decision, when we have it, will surely be of the utmost significance for critical philosophy, It might well enable us to reframe the psycho-physical question in such a way as to give it a definable empirical reference to such terms as "mind" and "matter." The question would then resolve itself into one of linguistic analysis, but no amount of analysis could of itself supply the required empirical reference.

Mere linguistic analysis seems to me as barren as mere diversity of facts. The business of the philosopher is to weld the diversity into a unity. Mere diversity, lacking the coherence given by intellectual categories is philosophically as jejune as the unutterable, contentless absolute of monistic idealism. It is hardly an anachronism to say that the Kantian dilemma—Thoughts without the content of intuition are empty, and intuitions without the concepts of thought are blind—is one that dogs philosophy right back to the preoccupation of the Ionians with the One and the Many. The history of philosophy might well be written as an account of the never-ending struggle of the intellect to steer itself between the twin disasters of emptiness and blindness. Or, using James's term, to attain Thickness.

William Ellis.

ART WITHOUT FORM

May I raise a few small points in connection with Mr. Carritt's interesting short paper on the above topic.

With the main purport of the paper as I understand it I entirely agree. Considering the extent to which poetry depends on the beauty of spoken words, the author asks (p. 25a) whether there could be "a way of suggesting or stimulating an aesthetic activity in which the referring medium was quite indifferent"; a condition which we could imagine to be approached if a deaf or tongue-tied race employed a script of conventional ideograms (not pictures). He inclines to the conclusion that, if there could still be something like poetic beauty, we could best explain it on the basis of the Hegelian threefold scheme. Hegel's *Sache* or subject-matter, and his *Vorstellung* or presentation, would still remain; though his third factor, the verbal expression, had been so impoverished. This seems to me convincing. Suppose the *Sache*

were the shadow of Death; a poet's genius might focus this in the same image-attended individual thought:

"Brightness falls from the air.
Queens have died young and fair . . ."

even though he and we had only script without the lovely sound, heard or imagined, of the spoken words that we know. The fusion of sound with sense would be gone, but fusion of the different elements within the *Vorstellung*, and of *Vorstellung* with *Sache*, would still remain.

I hope Mr. Carritt will feel able to approve this paraphrase and accept my agreement; and that he will then allow me to comment on a few stumbling-blocks which perhaps he might be willing in a future version to remove.

1. No one will dispute the loss to poetry if our written signs lost their implication of sound, while the different potential beauty of a system of pictures was also by hypothesis shut out. But beyond this initial exclusion I do not fully understand Mr. Carritt's repeated insistence (e.g., p. 24) that the ideographic symbolism is to be "quite arbitrary and conventional." Can it be kept so, if it is to be an intelligible system at all? Will not its internal relationships, its accidence and syntax, correspond with objective relationships in a way which will soon seem natural? and will not its signs in actual use acquire rich associations of meaning just as our spoken words acquire these, making a further beauty possible?

2. The sense-basis of any aesthetic quality in the referring medium will by hypothesis be visual only; but it is not clear to me why Mr. Carritt holds (pp. 20, 23) that this could not fuse with the poetry as sounds do with sense. "We must assume," he says, "that the sensible nature of the ideograms would be as irrelevant as the fount of type used in printing Shakespeare." But within the system once given the ideogram-series concerned would not be arbitrary or variable but would be dictated by Shakespeare and mean Shakespeare. Would not this use of the system enrich its associative power on the one hand, and would not new writers on the other hand exploit both its associative and its sensible potentialities as now they exploit the potentialities of the system of spoken sound? The resources would be narrower, but why should they be shut out from fusion?

3. Mr. Carritt suggests that his hypothesis would go still deeper in its effect. The ideographic system would "indicate or refer to things and our experiences of them directly, without the intermediate reference to vocal sounds" (p. 22), and he believes that this difference may be very important. "Would it be only like looking at an object through a different coloured glass, or rather like for the first time touching it?"

Nevertheless, I still ask how much difference is really made. I think it is common ground among educational psychologists that the speed of silent reading largely depends on suppressing the intermediate reference to sound. When we read for meaning we read in great part visually only, not delaying ourselves by mentally heard or mentally spoken words but getting the significance direct. It would seem to follow that when we read poetry slowly for enjoyment the vocal sounds need not be re-inserted as intermediary (as with a child learning to read) but can be blended with the meaning; the two coming up together. That is, directness can be achieved and maintained without the ideographic technique. If this view of silent reading is not accepted, it would be enough to consider our listening to spoken poetry, where intermediate reference seems to have no place.

4. My last difficulty (speaking as a reader unpractised in aesthetics) lies in the paper's title and in the question with which it ends: "Can there be art

without form?" To confine the name "form" to the referring medium is awkward in view of Mr. Carritt's own rendering (only one page earlier) of the Hegelian scheme, in which the second factor is given as "the form or presentation (*Vorstellung*)" while verbal expression constitutes the third. Customary language allows both factors the use of the name. I know that mathematics is not poetry, yet we speak intelligibly of the beauty of a theorem within whose special focus, to the measure of its range, the *Sache* which is some aspect of mathematical truth is perfectly *vorgestellt*; enabled to deploy and display itself in the field of our mind with adequacy and economy and grace. In the visual medium the type or the handwriting and the way in which it is set out on the page should contribute what each can, but if they fail we do not therefore cease to commend the theorem's form. Nor do we say that a well composed speech or essay has no form because it is delivered in a harsh or stumbling voice with a bad accent—because the speech-sounds fail. Will not poetry keep its form in the sphere of *Vorstellung* even on some unhappy day when our deafened and silenced race may have forgotten how its speech once sounded?

HELEN WODEHOUSE.

NEW BOOKS

Matter and Light: The New Physics. By Louis de Broglie. Translated by W. H. Johnston, B.A. (London: George Allen & Unwin, Ltd. 1939. Pp.300. Price 12s. 6d. net.)

This book, by the distinguished originator of the modern wave theory of matter, is a collection of originally independent addresses and papers on the nature of matter and light. Certain slight modifications have been made to establish a loose coherence between the chapters, and the order of presentation is designed to introduce a certain amount of system into the exposition. The result, however, is, from the structural point of view, necessarily an unpleasing disjointed mass of information, in which the same thing is encountered over and over again. In most circumstances this would constitute an irredeemable condemnation, but here it is almost a merit. Systematic treatises on modern quantum theory are numerous enough, and they leave most readers wondering whether physicists have lost their reason or not. After reading their defence for the *n*th time, however, and examining it from the *n*th point of view, one begins to realize, not perhaps what the modern doctrines mean, but why they have been created and what the problem is which they seek to express. M. de Broglie's clearness of vision and simplicity of expression also go a long way towards overcoming the difficulty of his subject, and the book is one which can be strongly recommended to those who prize understanding above aesthetic satisfaction.

The central theme of the book is the appearance of the concepts of waves and corpuscles in physical theory. Newton thought of light as a crowd of corpuscles, but his views were long ago discarded in favour of a wave theory. Matter, on the other hand, has in modern times always been regarded as composed of corpuscles, of which electrons and similar entities are at present the ultimate representatives. The reasons for these views were that they explained experiments: neither waves of light nor electrons had been, or indeed could be, observed directly. More recent experiments, however, appear inconsistent with such explanations: they seem to demand that light should be corpuscular, and that matter whould be ultimately wave-like. Thus there arises an incompatibility in the theories of both light and matter. Each behaves in some experiments as though it were a wave, and in others as though it were a corpuscle, and the problem is to form a conception of it which will explain both sets of experiments.

There is a further difficulty. A wave demands a medium in which to manifest itself. The luminiferous ether, in spite of certain contradictory properties, supplied this need for light more or less satisfactorily until the theory of relativity appeared, but thereafter it could be maintained only if one ceased to demand that it could even conceivably be a standard of reference with respect to which a body could be said to move, and this is justifiably regarded by most physicists as equivalent to a denial of its reality. The medium in which material waves exist is, if possible, still more inapprehensible. Hence with regard to both light and matter, we appear to be forced to accept incompatible conceptions, one of which is also impossible to realize.

It cannot be said that the reconciliation has yet been made, and one is inclined to feel that M. de Broglie's comments on the achievements of wave mechanics are rather optimistic, though, to be sure, he does not hide some of

the difficulties that still remain. Perhaps the least unsatisfactory view of the matter is the following, which he presents with great clearness. The entity itself—whether the element of light or that of matter—is a corpuscle, and the wave is a representation of our knowledge of it. Thus, if a single corpuscle (a photon or an electron) is under consideration, it is at a certain place and is moving with a certain momentum, but our knowledge of that place and momentum is not precise because any attempt we make to determine them necessarily changes them. The amplitude of the wave at any point is a measure of the probability that the corpuscle will be found there. The reason why a wave which is simply a symbolic representation of our knowledge can appear to behave as an objective physical entity is that in all experiments in which it so appears, large numbers of corpuscles are involved, and what we observe is their statistical distribution. To take an analogy, we may assess the probability that a single individual will be found at a particular place in a street. Let us suppose the probability is greatest at the centre and falls off steadily as we approach either end. The probability distribution can then be represented graphically by a wavy curve, but it will have no physical existence when only one individual is in the street. If 10,000 individuals are there, however, the wave will be visibly displayed by their distribution, and taken as a whole may be said to have a physical existence. Our knowledge of probabilities concerning the individual becomes a physical characteristic of the mass.

This view of the matter meets many of the facts, but epistemologically it is very unsatisfactory. It gives us no inkling of what determines the probability distribution, and furthermore, by ascribing reality to characteristics (position and momentum) of the corpuscle which are essentially indeterminable (since our knowledge cannot go beyond that represented by the probability curve), it violates the principle on which all the modern advances of physical theory have been based—namely, that that which is essentially indeterminable must play no part in our conceptions. Another view of the situation is that the wave represents the dynamical characteristics and the corpuscle the geometrical characteristics of the entity. This certainly corresponds to the mathematical formulae, but leaves quite open the question what the entity itself is.

The general effect of the book is to confirm one's conviction that the difficulties are inseparably associated with the terms in which the question is framed. If we ask, "Are the electron and photon waves or particles, or what?" we are assuming that they are objective entities conforming in some measure to our everyday conception of physical objects, and that our problem is to describe them in terms applicable to such objects. With that assumption, physics answers indubitably that they are magical, having contradictory properties and behaving in essentially incalculable ways. If, on the other hand, we take as the objects of our consideration simply our actual observations, our experiences, and regard electrons and protons as concepts created for the purpose of establishing a rational correlation of those experiences (which, as a simple historical fact, is just what they are), it becomes impossible for them to be irrational, for if they were they would cease to fulfil their purpose and would be rejected. The present difficulties of physics are then simply incompletenesses; there are sets of experiences which have not yet been rationally correlated with one another. Physically, the difficulties remain as great as ever, but we are preserved from the error of thinking that there is any indeterminacy in experience, and of misinterpreting a difference between independent conceptions as a contradiction between the properties of a single entity.

HERBERT DINGLE.

PHILOSOPHY

A Philosophy of Religion. By Edgar Sheffield Brightman. (New York: Prentice Hall. 1940. Pp. xvii + 539. Price $4.)

It is rather unfair to ask an author whom he is writing for. He may properly reply "For anyone who cares to read me"; but he might be prepared to admit that he had some particular type of reader rather specially in mind. I speculated a good deal about that as I read this book. Much of it seems to be content with conveying information. Indeed, it degenerates quite frequently into a list of authors who hold so and so. It was hard to avoid the conclusion that a part of the author's aim was to enable beginners to "know their stuff." The manual in it, it is true, is united with an independent argument or "philosophy." But such unions tend to be precarious.

Another of my difficulties about the book (and I hope I am over querulous) is that when there is an argument (as, I hasten to say, there very often is) I find great difficulty in discovering whether the author means the argument to be tough rather than amiable, or amiable rather than tough. I find little evidence from emphasis, length, rigour, or pains regarding which is meant. Thus I should suppose that the following argument ought to be tough: "Since all of the actual data empirically available are conscious experiences, all that is inferred from those data must be consistent with and explanatory of conscious experience. We may call the present experience of any one of us the datum self (or the empirical situation). If the objective source of all value experience is a personal God, the datum self is rationally explained." Surely one is entitled to something less cryptic. Again, the most important terms in the book (viz. as I think "experience" and "the given") seem to me to be desperately mysterious. Sometimes "experience" means "my present immediate consciousness." Sometimes anything, even a theory or a dogma, that may be supposed to have any sort of connection with such immediacy is called "empirical." And what is to be done about a statement like this (p. 333): "After all, if the Given is in man, God gave it to him"?

Beginning with a general description of religion as "essentially a concern about experiences which are supremely valued," the author arrives at the philosophy of a finite God who is axiogenetic and axiosoteric, i.e. is the Source and Continuer of all values. Why shouldn't he? And if, as in fact he is, he is obviously candid in his intentions, obviously erudite, conscientiously undogmatic (when he remembers, as he usually does) and sedulously comprehensive, where is the place for fault finding? I hope there is none of importance, except in nasty suspicious minds like mine. To me, however, about half the conclusions of the book seem to be not so much argued as reached. "Concern" about values is gradually enlarged, with very little explanation, into worship and adoration. It becomes "cosmic" in a parenthetic sort of way and reaches a "Source" and a "Continuer" while you wait. (Although sometimes you have argument. You never know.) I suppose that if everything (even "novelties" and "free will") must have its source, values must have sources. But why *a* Source? If everything leads to something else, everything must in some vague way be continued. But why *a* Continuer of values? And why should the sources or continuations be cosmic except in the sense that the cosmos contains them (when they are not hyper-cosmic)? Quite often, as I have said, the author argues such points. But very often he seems to me just to slip them in without appreciating that he has done so. That is the main reason why I am suspicious about this book, although I am anxious to say that it is both profitable and readable. I cannot think it would perturb an atheist, and I agree with the author that atheists should not be imperturbable.

John Laird.

Living Religions and a World Faith. By WILLIAM ERNEST HOCKING. (London: George Allen & Unwin, Ltd. 1940. Pp. 293. Price 10s.)

The direct pertinence of the author's Hibbert Lectures is, I think, undeniable, simply because recent catastrophic events, far from submerging the problems dealt with, on the contrary profoundly intensify them; and in any case it is clear that wide ranging religious issues have acquired a vital importance which they will retain long after the war itself is over. Nor can the familiar objection be advanced that this is only one more instance of unjustifiable detachment from actualities. The volume is the outcome of no mere "armchair speculation," but of an intimate and extensive contact with all current religions. What of their "rightful future relationships"? Can any one of them aspire to the exalted rôle of "a world faith"?

I suppose that even to-day the philosopher must define his terms, thereby inviting criticism which, under present conditions, seems painfully superfluous. Religion, then, "is a passion for righteousness and for the spread of righteousness, conceived as a cosmic demand"; on which I will merely comment that I find it difficult to combine, as closely as Professor Hocking has done, righteousness with a *cosmic* demand. Too often, I believe, the latter threatens to extinguish the former. From quite a different angle, again, we are given an illuminating interpretation of Whitehead's well-known dictum: "religion is the redemption of solitude." But once more does solitude, in becoming cosmic, invariably entail righteousness? Quite apart from definition, however, the "living religions" stand out so patently that controversy appears quite out of place.

Much more to the point is the penetrating discussion of the practical alternatives. There is, first of all, the policy of "radical displacement"; and although Dr. Hocking admits that this "is a strong case," he concludes nevertheless that it should now be abandoned; no "particular and historic religion may impose itself on any other." But this involves the deeper problem of the due claims of universality and particularity respectively. The first of these attributes seems absolutely indispensable to every great religion; but how can it be reconciled with the second? On this issue Professor Hocking dissents from Dewey's arguments against the essentiality of local characteristics, though at the same moment he insists that "religion must unite men with the everlasting and changeless"; exactly how would lead back to Plato, while its due place must be assigned to a relativity which can never be rendered absolute.

The indestructible particularity of every religion, however, by no means condemns it to slow decay, nor involves its absorption in some possibly higher but still non-religious philosophy. Even though "the swath of anti-religious sentiment in Asia will be very wide, the existing religions are not likely to disappear"; and this makes the second plan of "synthesis," despite its obvious dangers, extremely attractive; for "legitimate synthesis is growth" conditioned by "individuality, organic unity, and consistency." Nevertheless, the author maintains, this too is inadequate except as being "the assembling stage preliminary to a further process of thought" whose aim is the discovery of the "essence" of religion by "reconception," despite its own perils. The very term "essence" invites age-old controversies; but, provided it transcends empty generality and false abstraction, reconception provides a permanent frame within which both the particular and the historic may be conserved.

In the light of this ideal scheme, however, Christianity to-day is not fully qualified, as Dr. Hocking proceeds to urge, to provide the requisite world religion, although "an era of new greatness in the history of Christian thought" is about to open, demanding the courage to maintain universality combined

with a "superhuman reference." But Western Christianity is too limited in many ways; it must and will, the author believes, find its future expansion in the Orient "far outpassing that which we of the West have conceived," while at the same time the other Oriental religions must themselves pass through the crucible of reconception.

These brief comments do scant justice to so excellent a discussion and ignore, perforce, many features which none can overlook who cherish faith in the rescue of civilization from contemporary chaos. Its comprehensiveness is marked throughout by a keen and sympathetic insight into the subtle but none the less irresistible factors which are swiftly shaping the world order of the future.

J. E. Turner.

The Social Mind. By John Elof Boodin. (New York and London: The Macmillan Co. 1939. Pp. xii + 593. Price 18s.)

Professor Boodin's first concern is to expose the fallacies of the old individualistic psychology and of the social and political theories based on it. The title of the book and some of the statements in the fourth chapter raise suspicions that the author may be tending towards the opposed type of fallacy; the fallacy that may be illustrated by the argument that because the sea is the indispensable environment of fishes in which they grow and live, and without which they could not be what they are, therefore the sea is a kind of fish. The next step is to say the sea is the greatest and most vital of all fishes, and that individual fishes are hardly fish at all except in so far as they subserve the ends of the great super fish. Professor Boodin steers clear of such fallacies, though his statements are not always free of difficulty and ambiguity. He says (p. 154), "I conceive mind as energy, not as 'states of consciousness.' The fundamental nature of this energy is will or conation in its various stages of complexity." The difficulty here is that the notion of energy is lacking in the element of choice between alternatives, which seems to be the essence of will, at any rate in its higher forms, as distinct from mere *nisus* or *conatus*. He says later (p. 156), "once we grasp the concept of energy as the fundamental concept of which material and mental are species, there is no more reason for denying the term, mind, to unities of minds than to deny the term matter to unities of matter. Social unities, being integrations of particular minds are minds of the second order. Since social unities may be integrations of simpler social unities we have minds of the third order, etc." There is no reason for denying the term mind to unities of higher orders except that it may be confusing, as it would be if mathematicians used one symbol for a and a^2, or chemists one term for atoms and molecules. The author himself does not appear to fall into any confusions, but he might lead some of the weaker brethren astray. Granted his first premiss that individual minds or personalities are nothing apart from the social groups in which they develop, that it is in the group that mind lives and moves and has its being, there is still a difference between the individual and the group. The chief ground of distinction seems to be that it is individual persons alone who are moral agents. We habitually speak of social groups in ethical terms, but the expressions are metaphorical and often misleading. Strictly speaking, a commercial company cannot be fraudulent or a nation treacherous, though there may be fraudulent directors or managers of companies and treacherous rulers or leaders of nations. In the later chapters the author is perfectly clear about this, and that the State exists for the sake of men and not men for the sake of the State. The first part of the problem

he has to discuss is how to combine external order with liberty and opportunity for the individual. This has often been discussed, but there is a further problem not so frequently considered. This is introduced by the subject of his fifth chapter on "Social Participation," and he returns to it in his last chapter, where he says (p. 571) "the chief end of life is to socialize mind, to give it a spiritualized body, be that body language, art, or institutions."

Professor Boodin's treatment is not confined to generalities, he deals with the discontents of the present age and its peculiar political problems in their historical setting. There is also a valuable discussion of the idea of social progress as it has been stated by various thinkers. This is an encouraging book to read at the present time, by an author who combines great learning, an objective and civilized mind, and in addition good sense and sound judgment.

A. D. RITCHIE.

Guide to Mental Health. By H. D. JENNINGS WHITE, M.A., Ph.D. (London: C. W. Daniel Company, Ltd. Pp. 298. Price 15s. net.)

No one should read this book who is not prepared to receive some mental and emotional jolts. The author has an uncanny way of penetrating our most secret and sacred defences and revealing the true nature of our motives and our goals. He does this so effectively because he is not afraid to examine our religious and moral preconceptions, and to approach them with a mind more open than that of most men, whatever their intellectual or moral endowments may be. His approach to the very difficult field of religion is neither negative nor defensive, and seldom offensive; he neither analyses religion away as being wholly illusory, nor accepts it in such a way as to inhibit clear thinking or to leave in the field more than a minimum number of unquestionable assumptions. To quote his own Introduction:

"My general conclusion is that religion in its narrow sense is an important cause of madness, and religion in its broadest sense the only cure. . . .

Since the majority of patients are in fact worried by their unsolved problems of religion and philosophy, and since only some method of solving the conflicting answers which torment them can be regarded as a satisfactory technique for the psychologist, I part company with all those psychologists who think they can in practice ignore the problems of religion and philosophy."

The main plan of the book is an analysis of certain positive though partial life-goals which he regards as being split off from a norm which includes them all. He analyses them in two senses, firstly as to their positive content, its possibilities and limitations, secondly as to their "split-offness" or claim to absolute and exclusive validity. Starting with these goals, he demonstrates their responsibility both for particular symptoms and disabilities, and also for typical systems of philosophy and belief. Read in the right way, his book can be a valuable help to those who seek to co-ordinate and synthesize existing systems of thought and approaches to life. He leaves us, perhaps, a little uncertain about the all-important nuclear factor in the psyche responsible for "split-offness," which may be construed in part as "original sin" or a matter of personal responsibility, in part as due to the defective culture in which the individual developed. He sees mental ill-health as due to a varying combination of fear, egotism, and lack of enlightenment as to the nature of "life-as-a-whole." The approach is, rightly for such a volume, more philosophical than technical, and he does not attempt to discuss the technique of treatment. To those unfamiliar with the technique of mental analysis and reductive methods, he may convey the impression that analysis is a more

intellectual procedure than it actually is, causing some to underestimate both the need for such a procedure in some cases and the seriousness of the personality reactions which the analyst has to face and resolve. The lay-reader can have little idea of the obstacles to insight which lie between the neurotic patient and the clear, balanced, and sane concepts of a book like this; but he may detect even in himself certain resistances (entirely reasonable and virtuous, of course!) as Dr. Jennings proceeds with his ruthless analysis of the concept of God and of the content of the Christian Scriptures. Many will be shaken by the parallels he draws between Old and New Testament myths and astronomical and astrological occurrences. For myself, I feel that his enthusiasm has rather run away with him here. I am grateful to him for the re-synthesis which he attempts in chapters 9, 11, and 12, and for his presentation of the Zen Buddhist tradition of final enlightenment, charmingly illustrated by "The Ten Pictures of Spiritual Cow-Herding." His own system of "Eutrophy" or "right nourishment," applied as a philosophy, a therapy, and a social ideal, is beyond criticism in principle and as an approach, though immensely difficult of achievement, and liable to many "technical hitches" on the way.

I would question his statement on p. 103, "A belief in the reality of spirit communion is not on the plane of science, but on the plane of alcohol"; this and a few other rash assertions of the unproven can only be excused as exuberances of a vigorous and original mind such as the author reveals. He is inclined to dismiss from his scheme certain extra-sensory perceptions and intuitive experiences which many would accept as psychological realities, and which occupy a position outside time and space, yet far short of the Ultimate Mystery. His exposure on pp. 105–106 of false identification of the Church with God is timely and could be a means of release to some. His chapter on The Goal of Love and the attitude of "Personalism" is excellent. "When mother's love is a prison and a poison, the only antidote is the love which is first a refuge, then a light, then a doorway, and finally a farewell." Finally, may I commend his summing up of the conflict between the Goal of Bliss and the call to activity in the world. "It is normal to adapt to the ultimate mystery symbolized by the Supreme Darkness"—"The annihilation of the self by God is not a solution"—"The criterion of morality does not lie in God's Purpose, but in those activities which work in the world—Only the-good-to-other-men is the criterion of the goodness of any man, not what he says about his relationship to God"—"The full meaning of life is not expressed by the mere cessation of suffering, but also by gratitude for the gift of life and the wish to reincarnate it by the succession of rebirths through generation after generation for ever. The timeless must ever be subject to incarnation in time and is yet not affected by the results of the incarnations, although the results of one incarnation affect future incarnations. The timeless we can adore, but cannot affect." He clearly sees in the conjunction between religion and philosophy a reality greater than either can claim in isolation from the other. ("Though it is impossible to replace philosophy by theology, it remains true that certain problems of our time may better be expressed in theological language, and that we have to choose the best possible form of expression according to the merits of the case."—F. H. Heinemann, *Philosophy*, October 1939, p. 479.)

B. D. Hendy.

Man and Society in an Age of Reconstruction: Studies in Modern Social Structure. By KARL MANNHEIM. (London: Kegan Paul, Trench, Trubner & Co. 1940. Pp. xxii+469. Price 16s. 6d. net.)

Readers of Professor Mannheim's *Ideology and Utopia* will welcome the publication of this work, which deals with sociological problems of wider scope and more immediate urgency. Like the previous work, but to a greater degree, it is a collection of studies rather than a continuous treatise. It consists of an introduction and six different parts, of varying size and importance, written (and many of them published) at different times during the last six years, though all of them apparently before the war. Moreover, some of them were originally written in German and subsequently translated, and some of them originally written in English; and it is a tribute to Professor Mannheim's mastery of our tongue that, if he had not told us, it would be difficult to determine which were which. In view of this structure, it is impossible to outline the argument of the book; and the best procedure for a reviewer will be to enumerate the titles of the different sections and to conclude with a few remarks about the most important of Professor Mannheim's general notions. Of these tasks, the first can be quite briefly performed. The Introduction deals with the Significance of the Age of Social Reconstruction; Part I with the Rational and Irrational Elements in Contemporary Society; Part II with Social Causes of the Contemporary Crisis in Culture; Part III with Crisis, Dictatorship, and War; Part IV with Thought at the Level of Planning; Part V with Planning for Freedom; and Part VI (a very short part) with Freedom at the Level of Planning. The work concludes with a bibliography of seventy-two pages, classified under seven main headings and numerous sub-headings and sub-sub-headings.

Professor Mannheim's main thesis, which is being rapidly corroborated by the march of events, is that society is undergoing such swift transitions that it must be planned or perish. But what gives the book its special interest is his contention that planning, when properly carried out, need by no means be hostile to the freedom that is really valuable to mankind; in fact, he seems to think that there is a necessary and inherent contradiction in any planning which is so hostile. And his aim is to provide the ideas about man and society which are necessary to corroborate this thesis and to indicate in outline the way in which he thinks that future planning should be carried out. As the title of the book suggests, psychology is no less important to him than sociology; one of his chief demands is for "A Psychology which should be Socially and Historically Relevant," and his quarrel with most psychologists and sociologists is that they fail to recognize this, busying themselves with abstract or specialized questions, and leaving the really important matters to be discussed by journalists and plain men without sociological training or knowledge. Readers of his previous work, and anybody who contemplates the enormous bibliography at the end of this one, will expect his treatment of these general questions to be both learned and thorough; and the expectation will not be disappointed. But even more important than the vast knowledge of detail with which the general discussions are illustrated and supported, is the wisdom and insight which always characterize them, and which, it is pleasant to notice, have been recognized in reviews in the general Press. (This wider recognition, it may be remarked in passing, is made possible by the style of the book as well as by its greater general interest. We must, of course, expect to find heavy reading in a book composed with such care and thoroughness; and there are times when these virtues produce considerable obstacles to an easy grasp of its argument; but it is nevertheless much less heavy reading than its predecessor.)

Except for incidental discussions in Part IV and elsewhere, there is little "Sociology of Knowledge," and not much else of purely technical interest to philosophers. But there is much that will be welcomed by students of the philosophy of society, a branch of thought which, as we should expect, is as important to Professor Mannheim as sociology or psychology. And even philosophers who fight shy of the main topics of the book because of their general nature or their practical relevance cannot, in these days at least, fail to learn from, and to admire, its wise and careful handling of them.

O. DE SELINCOURT.

A Bibliography of John Dewey, 1882–1939. By M. H. THOMAS. (New York: Columbia University Press. London: Humphrey Milford, Oxford University Press. 1939. Pp. xviii + 246. Price 20s. net.)

This book enlarges the bibliography of Dewey's writings published in 1929, and is introduced by a pleasant and informative introduction by Professor H. W. Schneider entitled "Dewey's Eighth Decade." Part I of the book gives a list of Dewey's writings, with amplifications such as contents, reviews evoked, and replies provoked. It occupies 158 pages. Part II, of over forty pages, gives a list of writings about Dewey.

JOHN LAIRD.

Proceedings of the American Catholic Philosophical Association: Vol. XV, Philosophy of the State. (Washington: Catholic University of America. 1940. Pp. 291. Price $1.50.)

In these days of ideological warfare the appearance of this work on political philosophy is timely. Unfortunately, the nature of the "proceedings" means that the book consists largely of quite short papers and discussions, so that no single point is worked out with any fullness. Nevertheless, such papers as Professor Briefs' on "The Philosophy of the Democratic State" and that by Dr. Waldemar Gurian on "Totalitarianism" contain excellent short statements of the grounds of the Catholic position. It seems worth while to quote from the former these two sentences: "All democracy must rest on the metaphysical equality of man. All democracy therefore points beyond national boundaries to mankind as a whole." Surely these sentences are full of significance to-day. On the other hand, whilst pointing out that the "Church is neutral toward political regimes as such," Dr. Gurian in a penetrating analysis discloses the reasons why totalitarianism has been condemned by successive Popes. Father D'Arcy's many English friends will read with pleasure two characteristically witty and shrewd discussions of modern philosophical movements in Europe.

THOMAS CORBISHLEY.

The Realm of Spirit: Book Fourth of Realms of Being. By GEORGE SANTAYANA (London, Constable & Co. 1940. Pp. xiii + 302. Price 16s. net.)

With this book Mr. Santayana completes the tetralogy that has occupied him for the last sixteen years, and a reviewer's first business is to voice the grateful sentiments of a host of readers and to congratulate the author upon a notable achievement. As a sage who makes no parade of his wisdom and

erudition, as a stylist who never obtrudes his art, Mr. Santayana is beyond compliment. One records the fact.

The present volume is at least the equal of its predecessors, and its theme may be even more fascinating than logic, matter, or Being in general. More specifically, the present volume begins with the question whether there is a world-spirit or, instead, scattered spirits in divers parts of the world, proceeds to discuss "will," freedom, and "intuition," and ends with longer and entrancing chapters on the spirit's distraction, liberation, and "union." These chapters stimulate, challenge, and, it may be, console. The last chapter summarizes the philosophy of the tetralogy, and is illustrated by a philosophical (and very free) translation of the doctrine of the Holy Trinity.

I think it might be a good idea if readers read the last chapter first, at any rate if the first three volumes of the tetralogy are not quite fresh in their minds. The foreground needs its appropriate background, unless readers are content just to savour the author's urbane and elegant wisdom. It would not be easy to have a better sketch of the philosophy than Mr. Santayana supplies in this closing chapter.

For myself, doubtless because of negligence or stupidity or both, I find the general philosophy very puzzling, and I shall mention a few of my difficulties, in the hope that the reader may be incited to resolve them.

In a brief and pregnant sentence which (from its position) should be meant to be very precise, Mr. Santayana says (p. 280): "This simple dissolution of superstition yields three of my realms of being: matter as the region and method of power; essence, as the proper nature of appearances and relations; and spirit as the witness or moral sensibility that is subject to the double assault of material events and of dramatic illusions." Here, as it seems to me, the realm of essence is Janus-faced and not at all to its advantage. Appearances (or "intuitions") would seem to be pure phenomena showing all that they are and have by the mere fact of turning up. Relations, on the other hand, need not "appear" at all, and commonly are logical or perhaps "material" implications whose inexhaustible domain is discovered piecemeal and very partially by sedulous investigators. Why should apparitions "in themselves dream-data (p. 277)" be billeted under the same roof as the general and the logical?

Further, as it seems to me, Mr. Santayana's "spirit" oscillates surprisingly for precisely the same reason. In part it is a "witness," that is to say, it notices what appears. As such it is a living psyche endowed with animal noseyness, being nosey just so long as its attention lasts, and for the most part responding to its particular situation. But somehow "spirit" is also said to enter into the workless realm of pure logical essences. "Ideas," says Mr. Santyana (p. 286), "brood over the flux like the invisible gods or the laws of nature." It is the psyche not "ideas" that broods, and although the brooding psyche may deliver itself from many of the distractions of sense—and dream-apparitions, and in doing so find joy and union (with x?) it is merely confusing to say as this author does (p. 291) that "spirit, by being immersed in the flux, perceives the flux and by perceiving it lends it the only immortality of which it is capable." In strictness, no such loan is possible. "Essence" again is said to be "infinite and ineffaceable." I suggest that a *witnessed* essence is very easily effaced and that an unwitnessed essence has nothing significant in common with a dream-apparition. A further difficulty of the same order is that timeless logical essences or bare possibilities are said to be presupposed in all actuality, "matter" or power, although insufficient *per se* to create, posit or constitute the actual. We are even told in an astonishing sentence (p. 292) that "power could not possibly produce anything unless it *borrowed*

some form (my italics) from the realm of essence and imposed that form on itself and on its works." I know that many of the greatest have said such things, including most who accept the Ontological Argument. For myself I believe that the statement does not make sense; but if it does make sense, the essences that thus go on compulsory loan are poles apart from dream-apparitions.

JOHN LAIRD.

The Heritage of Kant. Edited by GEORGE TAPLEY WHITNEY and DAVID F. BOWERS. (Princeton University Press; London: Humphrey Milford Oxford University Press. Pp. xi + 426. Price 4 dollars 50; 28s.)

This volume contains a collection of seventeen papers covering almost every aspect of Kant's work. An adequate review is thus impossible within reasonable limits. In choosing certain papers for comment from the section dealing primarily with the *Critique of Pure Reason* I have been guided by my own interests rather than by any merit or demerit in the papers themselves.

But first of all it must be pointed out that the title of the book is a little misleading. Literally *The Heritage of Kant* should refer to those theories which Kant himself inherited from his predecessors. Loosely it might mean those views which we have inherited from Kant. But the papers in this volume are, with one or two exceptions, simply concerned to interpret or criticize Kant's own theories without obvious reference to the part which those theories play in contemporary thought.

One of the editors, Mr. Bowers, himself contributes a paper which is relevant to current problems. He draws an interesting parallel between Kant's criticism of metaphysics and the claim made by the positivists that metaphysical propositions are not significant. While it is possible to agree with his conclusion that there will never be an end to metaphysics so long as the human race continues to produce the sort of men who become metaphysicians, such an argument is quite irrelevant when we are attempting to assess the possibility of metaphysics as a valid form of knowledge. There will never be an end to lunacy for the same good reasons. Moreover, his statement that the man who denies the significance of metaphysical propositions is himself making a metaphysical proposition is not necessarily true. Such a man may be merely proposing to use language in a certain way. Whether or not this way is a profitable one is another matter. But the paper as a whole contains a number of suggestive analogies, and is well worth reading in connection with some of our present difficulties.

Another paper which falls within the scope suggested by the title of the book is "Some Bad Results of Kant's Thought" by Mr. W. H. Sheldon. He complains that since Kant philosophy has tended to degenerate into an "introverted speculative game," and that in consequence theory and practice have become more and more divorced from one another. But though criticisms of this sort might apply to that type of Hegelian who is no longer with us, they do not appear of much importance to-day. Mr. Sheldon sometimes writes as though, with Bergson, he regretted that we have to think the way we do, but that is a fact for which he can hardly blame Kant.

Two or three papers deal with the doctrines of the first Critique on their own merits. Mr. Ledger Wood, for example, examines Kant's claim to have invented a new and distinctively philosophical method. He concludes that such a claim cannot be substantiated. Kant, he suggests, has used in the Analytic a method which differs only in its subject-matter from that of the

scientist. If this be true, it would follow that the results achieved by such a method are merely hypothetical constructions, and cannot be conclusively demonstrated. However well they explain the observed phenomena, other constructions are always possible. Mr. S. M. Thompson throws further light on this same problem, although he approaches the Analytic from a different point. He indicates very clearly the conditions under which the categories are validated by the nature of our scientific knowledge, and points out that, even if Kant's metaphysical assumptions were false, his analysis of experience remains of permanent value.

For the remainder it can only be said that Kant's ethics and aesthetics are fully dealt with, and a paper by Mr. Northrop gives an interesting account of his early scientific writings. There is no paper among the whole seventeen which a student of Kant will not find of interest.

One criticism remains. On the dust-wrapper there occurs the following sentence: "Starting with the conviction that speculation must be rooted in human experience, Kant ends by showing that the basic characteristics of that experience, its scientific, moral, and aesthetic aspects, are essentially the projection, the construction of the human temperament itself."

JAMES DREVER.

The Limits of Speculative Humanism. By J. LAIRD. Annual Philosophical Lecture (Henriette Hertz Trust). From the Proceedings of the British Academy, Vol. XXVI. (London: Humphrey Milford, Oxford University Press. 1940. Pp. 31. Price 2s.)

This is one of the excellent parerga which Professor Laird seems to throw off with ease. His gift of writing at a high level of thought in a way that makes his matter intelligible to the non-specialist is here well exemplified. Anyone who likes to see big problems handled in a small space with unsanctimonious seriousness and with a balance of acuteness and common sense will enjoy reading this lecture. It examines the contention of many idealists that all that we know and all that we value owes its character to the knowing and appreciating mind. According to some objective idealists this contention is the only safeguard of truth and the other values, while in the hands of some subjective idealists it wellnigh dissolves them. Professor Laird, always a realist, maintains that the vindication of values does not require the principle that we anthropomorphize all that we touch; he agrees with Alexander's saying that we can "strip the mind of its pretensions" without stripping it of its "value or greatness." That what we know is found, not made, he illustrates from both sense and thought: the subjectivity of perceived objects would involve solipsism, and such thought-relations as similarity become rather absurd on a subjectivist reading (when we say that two objects are similar we do not and cannot mean that we have similified them). In the theory of aesthetic and moral values the subjectivists have an apparently more congenial field, but Professor Laird keeps his finger on the basic point that making value a function of desire or satisfaction ties one to a merely psychological viewpoint—it cannot provide a canon, or even the very conception, of *right* desire or appreciation. On the claim that objective values are those that the generality of individuals appreciate he observes that not publicity, or generality of consent (which in fact is never complete), but impartiality, is what we mean by right appreciation, and that impartiality is definable only as the acknowledgment of what *really deserves* to be appreciated. Neither the psychological nor the sociological

viewpoint, then, is able to do justice to the idea, which we cannot in practice dispense with, of the objectivity of values. For himself, Professor Laird falls back on what he calls the "simple-minded doctrine" that "good is good, that we can discern it, and that there's an end of the problem." With some reservation, especially on the last clause, this is surely the most reasonable doctrine, because we can take it from the study to the street and back to the study again. Those of us who feel doubt about the last clause would draw the limits of speculative humanism less narrowly than Professor Laird would do, but we shall argue badly if we ignore any of the points of this eminently fair-minded lecture.

T. E. Jessop.

Scepticism and Dogma. A Study in the Philosophy of F. H. Bradley. By R. G. Ross. (New York: Journal of Philosophy. 1940. Pp. 159. Price $1.25.)

Since the literature on Bradley consists almost entirely of articles in periodicals and odd chapters in books, a monograph on him is welcome. This one is not intended as an introduction to Bradley's philosophy; it is an investigation of the way in which the devastating scepticism of the first part of *Appearance and Reality* follows from the doctrine of the *Principles of Logic* and then leads in the second part to dogma in the non-opprobrious sense of positive metaphysical declaration. The necessity of the connection between the scepticism and the dogma is the main theme. Bradley's logical view that idea, judgment, and inference are but different degrees of explicitness of what is known, revealing that what is known, or rather what we are seeking to know, is a single system, directly provided him with the criterion of truth and reality with which he began *Appearance and Reality*, and this criterion validates both the negative and the positive contentions of that work. The constant characteristic of knowing is the demand for and progressive apprehension of system, and the marks of system are consistency and completeness. None of our knowledge possesses these two marks, nor, according to Bradley, will it ever do so, since it operates with a category —that of relation—which cannot be made intelligible and which leads to infinite regress. This is the sceptical side. The positive side, the conception of reality as a supra-relational whole of experience, is required by the unsatisfactoriness of the category of relation on the one hand, and on the other by the experiential character of everything that knowing has to deal with. In the course of his discussion Dr. Ross enters interestingly into several points of exegesis—for example, the extent to which Bradley in his later years modified his views, what was involved in his misgivings about his theory of "floating" ideas, how he conceived the relation of the ideal to the real, and the reason why he was able to refer to truth sometimes as correspondence, sometimes as coherence, and sometimes as identity.

The book is a modest but perceptive piece of work. It keeps to the level of exegesis. If, as seems to me, the links between the sections are not always clear and the argument lacks a steady forward movement, the book nevertheless, through the author's understanding sympathy with his subject, illuminates some dark places

T. E. Jessop.

Books received also:—

W. T. Jones. *Morality and Freedom in the Philosophy of Immanuel Kant.* London: Oxford University Press, Humphrey Milford. 1940. Pp. ix + 178. 8s. 6d.

J. V. L. Casserley. *Providence and History, A Tale of Two Cities* ("Signposts" series). London: Dacre Press. 1940. Pp. 127. 1s.

S. Kierkegaard (Tr. by . S. Aldworth and W. S. Ferrie). *Consider the Lilies; being the second part of "Edifying Discourses in a Different Vein" published in* 1847 *at Copenhagen.* London: C. W. Daniel Co. 1940. Pp. 71. 4s. 6d.

C. E. Trinkhaus, Jr. *Adversity's Noblemen: The Italian Humanists on Happiness.* New York: Columbia University Press; London: P. S. King & Son. 1940. Pp. 172. 8s.

J. Taylor Peddie. *The Rule of Equity: The Correct Approach to World Peace.* London: Williams & Norgate Ltd. 1940. Pp. xiii + 239. 12s. 6d.

G. B. Robson. *The Mind of Jesus Christ.* London: Epworth Press. 1941. Pp. 152. 5s.

N. Kemp Smith. *The Philosophy of David Hume: A Critical Study of its Origins and Central Doctrines.* London: Macmillan & Co. 1941. Pp. xxiv + 568. 25s.

Various Authors. *The Philosophy of Santayana* (Ed. by P. A. Schilpp). Evanston & Chicago: Northwestern University. 1940. Pp. xvii + 698. 4 dollars.

B. Russell. *An Inquiry into Meaning and Truth* (William James Lectures, 1940). London: G. Allen & Unwin, Ltd. 1941. Pp. 352. 12s. 6d.

A. P. Ushenko. *The Problems of Logic.* London: G. Allen & Unwin, Ltd. 1941. Pp. 225. 7s. 6d.

N. N. Chaudhury. *Pragmatism and Pioneering in Benoy Sarkar's Sociology and Economics.* Calcutta: C. Chatterjee & Co. 1940. Pp. 152. Rs. 3.

D. S. Sarma. *Krishna and His Song.* Bombay: International Book House. 1940. Pp. vii + 93. Rs. 1.8.

D. G. Peck. *Catholic Design for Society* ("Signposts series"). London: Dacre Press. 1941. Pp. 111. 1s.

Various Authors. *Science, Philosophy and Religion: a Symposium.* New York: Conference on Science, Philosophy and Religion in their Relation to the Democratic Way of Life, Inc. 1941. Pp. 443. 1 dollar 50.

L. C. Rosenfield. *From Beast-Machine to Man-Machine: Animal Soul in French Letters from Descartes to La Mettrie.* New York: Oxford University Press. 1941. Pp. xxviii + 353. 3 dollars 50.

W. B. Chamberlain. *Heaven wasn't his Destination: The Philosophy of Ludwig Feuerbach.* London: G. Allen & Unwin, Ltd. 1941. Pp. 216. 8s. 6d.

E. M. Rowell. *Time and Time Again: Essays on various subjects.* London: G. Allen & Unwin, Ltd. 1941. Pp. 269. 7s. 6d.

INSTITUTE NOTES

Owing to the *blitzkrieg*, we have not been able to hold lectures during the past winter. As soon as it becomes possible to resume meetings of the Institute, members will be informed. In the meantime, the Council appeals for the loyal support of all who believe that philosophy has an important function to perform in this extremely critical age.

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